

TECHNOLOGY

REVIEW *April* 1955

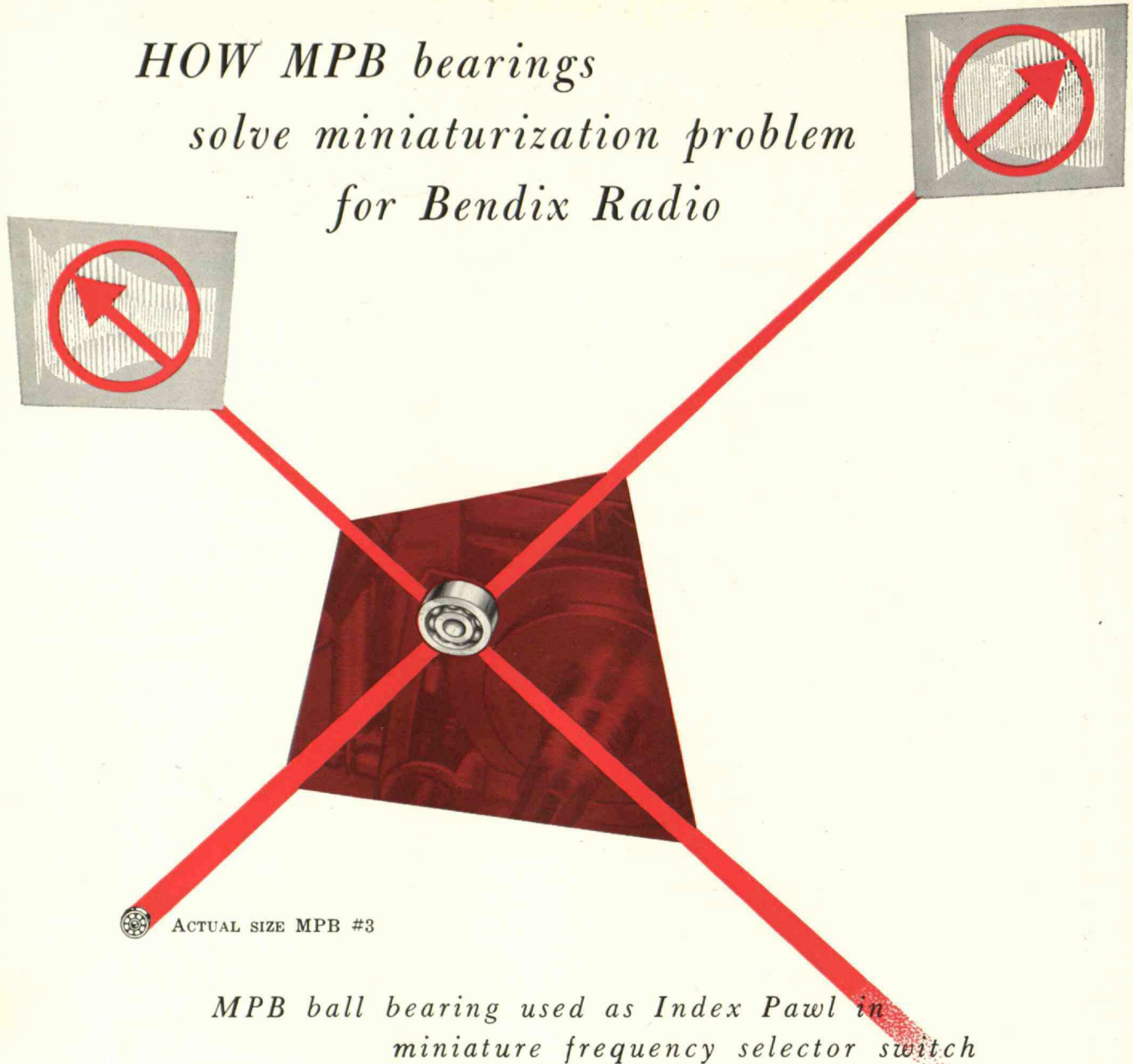


technology review

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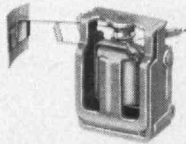
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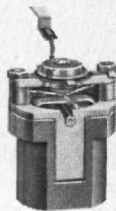
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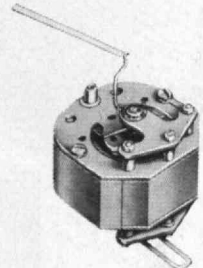


Model 9889—Small self-shielded core magnet mechanism featuring spring-backed jewels for ruggedness and the requirements of vibration and shock; suppressed characteristics if desired; optional location of mounting. Capable of 90° total deflection and can be used for both warning flags and indicator.

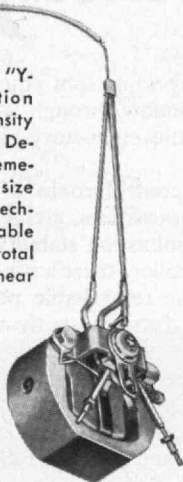


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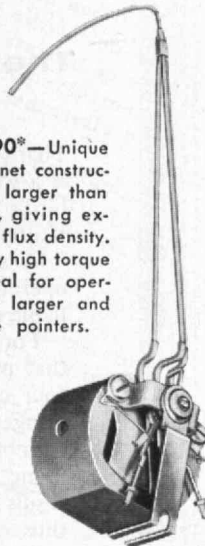
Model 9897—Long scale, 250° self-shielded movement, linear motion for operation of pointers where great deflection is a requirement. Capable of sensitivities in the order of 1½ microamperes per degree deflection.



Model 9891*—Unique "Y-Cor" magnet construction giving very high flux density with very high torque. Designed for operating extremely long pointers. Small size makes it ideal for multi-mechanism instrument use. Capable of 45° (22.5-0-22.5°) total deflection, essentially linear up to 40° (20-0-20°).



Model 9890*—Unique "Y-Cor" magnet construction, slightly larger than Model 9891, giving extremely high flux density. The extremely high torque makes it ideal for operation of the larger and heavier type pointers.

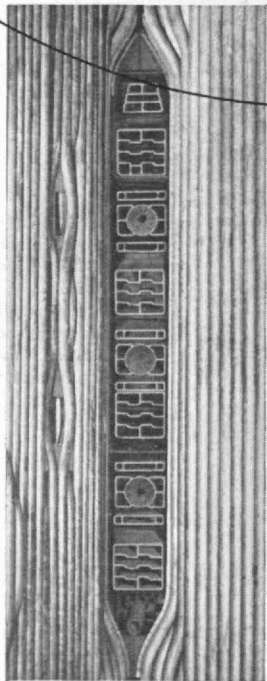
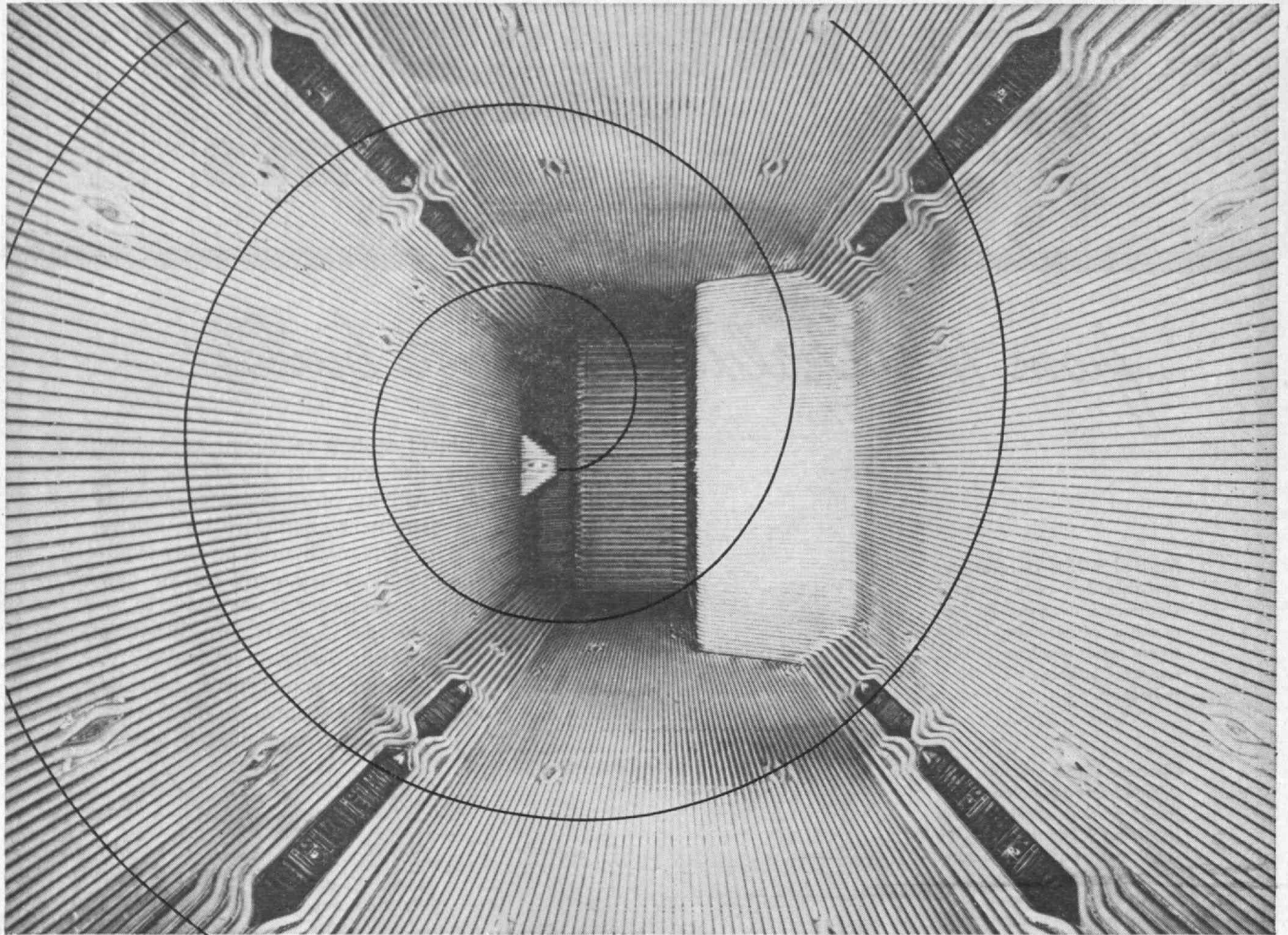


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*These Models useful as sensitive, self-shielded galvanometers.

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PRESIDENT

Mr. C. A. Barrere
Vice President
The Lummus Company
2707 Wesleyan Road
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Dear Mr. Barrere:

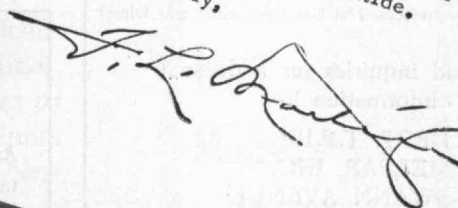
It is with a great deal of satisfaction we advise you and The Lummus Company of your outstanding performance and the remarkable record you achieved in the construction of our refinery here at Corpus Christi. The contract with your company was signed on February 6, 1952; groundbreaking ceremonies were held March 12, 1952, and you completed the refinery in eighteen months under the most adverse conditions and scarcity of materials. The expediting of the materials and the know-how of engineering and construction methods are the two prime factors in this record breaking completion.

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Yours very truly,



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THE TABULAR VIEW

Peaceful Atoms. — Man's knowledge of the atom, and the use to which that knowledge is put, provide problems of the most serious kind for the future of mankind. It is generally recognized that the uncontrolled and improper use of atomic energy can be catastrophic; yet the beneficent use of radioactive particles can also provide important advantages to man's well-being. Many decisions are being made today, with respect to atomic energy, which have a considerable bearing upon, and in turn affect, public policy. We shall have to live by the results of these decisions for a long time. What some of these policy matters are is discussed (page 283) by PROFESSOR WALTER G. WHITMAN, '17, Head of the Department of Chemical Engineering. The Review's article represents the text of an address given at the Southwest Regional Conference in Dallas on January 29, as recorded on page 294. Dr. Whitman received the S.B. and S.M. degrees from M.I.T. in 1917 and 1920, respectively, and Northeastern University awarded him an honorary Sc.D. degree in June, 1954. Except for three periods of service to industry or the nation, Professor Whitman has been closely identified with the Institute's Department of Chemical Engineering (including its Practice Schools) since his graduation from the Institute. In 1926 he joined the staff of the Standard Oil Company (Indiana) as assistant director of research, and in 1930 was made associate director of research. He returned to M.I.T. in 1934 as head of the Department of Chemical Engineering. From 1942 he was on leave of absence to carry on important duties in his professional field. Recently, Secretary General Dag Hammarskjöld, of the United Nations, appointed Professor Whitman to assume responsibility for setting up the first world scientific conference on atomic energy. This conference will be held next August in Geneva. Professor Whitman is also on the General Advisory Committee to the Atomic Energy Commission.

Managerial Thinking. — At the Southwest Regional Conference held in Dallas on January 29, DOUGLAS M. MCGREGOR, Professor of Industrial Management in the Institute's School of Industrial Management, spoke on "The Changing Role of Management." Except for the rather considerable amount of discussion (Concluded on page 274)

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<p>+3</p> <p>MoCl₃</p> <p>K₃MoCl₆</p> <p>MoBr₃</p> <p>MoBr₃·3C₅H₅N</p> <p>Mo₄O₃(C₂O₄)₃</p>	<p>*R = Ag, Ba, Ca, Ce, Co, K, Li, Na, Ni, Pb, Sr, Zn</p>
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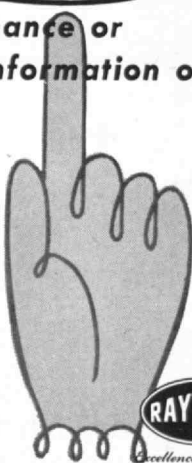
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THE TABULAR VIEW

(Concluded from page 272)

sion which this talk initiated, Dr. McGregor's address appears in this issue of The Review (page 287). Management's reborn confidence in itself is based on the belief that people are willing to co-operate toward the achievement of a stated objective; it is also based on confidence in the latent abilities of the individual. Such, at any rate, is Dr. McGregor's view, based on two decades of experience in dealing with topics in psychology and labor relations. In 1932 Dr. McGregor received the B.A. degree from Wayne University; from Harvard University he received the M.A. and Ph.D. degrees in 1933 and 1935, respectively. After serving for two years on the teaching staff of Harvard University, Dr. McGregor joined the M.I.T. staff in 1937 as instructor in the Department of Economics and Social Science. He became assistant professor in psychology in 1938, associate professor in 1942, and professor in 1948. From 1948 to 1954 he was president of Antioch College. He returned to M.I.T. last year.

Great Famines. — Since the dawn of human existence, hunger has persistently pursued the predominant masses of mankind. The more serious of the world's great famines are recorded (page 291) by JAMES A. TOBEY, '15, a frequent contributor to The Review. Whether man will ultimately win out, in the race for food, remains to be seen, but Dr. Tobey holds that man now has it within his power to regulate population and food production sufficiently well that starvation in most parts of the world could be a thing of the past. Dr. Tobey received the S.B. and Dr.P.H. degrees from M.I.T. in 1916 and 1927 respectively, the LL.B. degree from Washington Law School in 1922, and the M.S. degree from the American University in 1923. As his latest article goes to press, he is returning to his home in Newtown, Conn., after a pleasant sojourn in West Palm Beach, Fla.



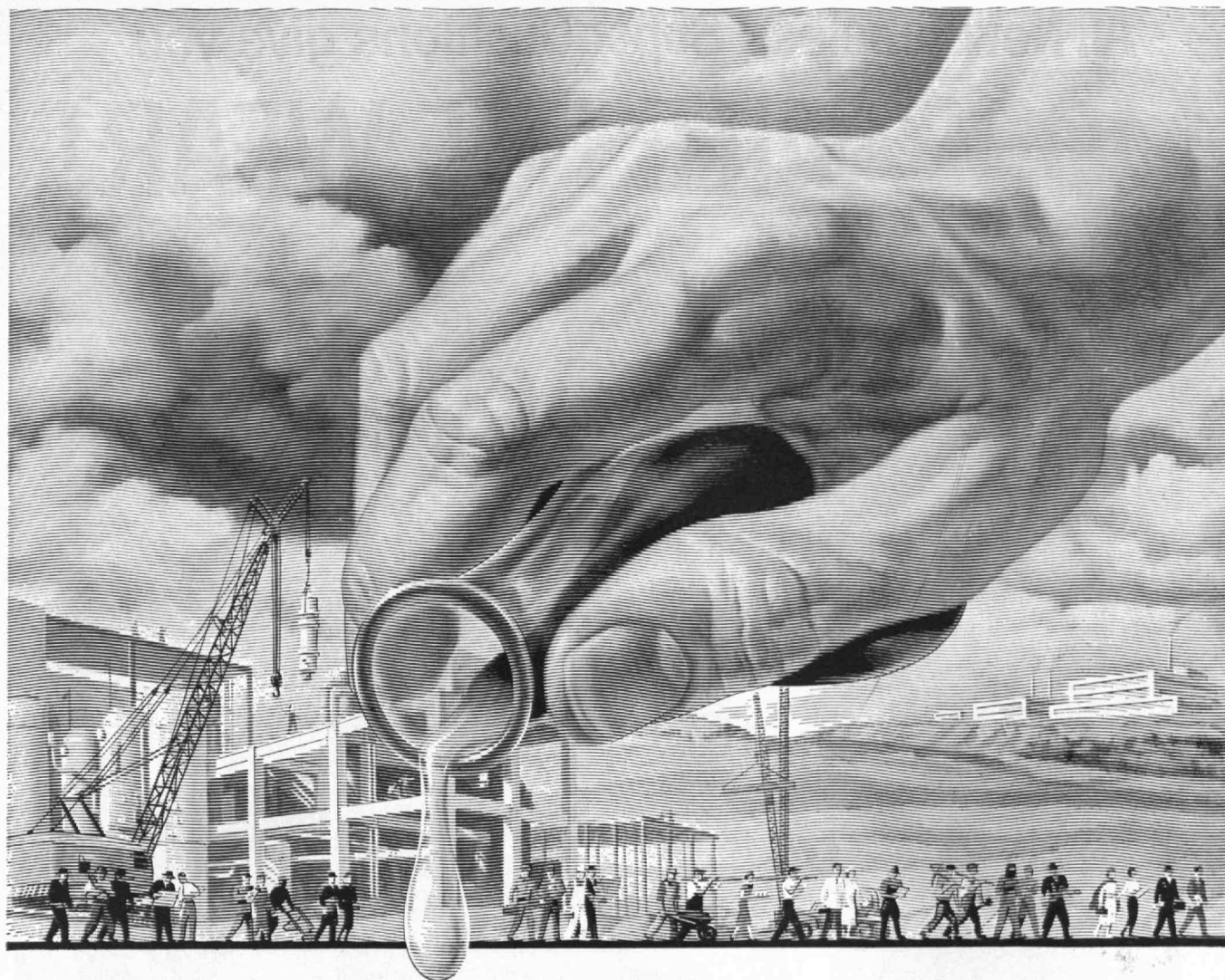
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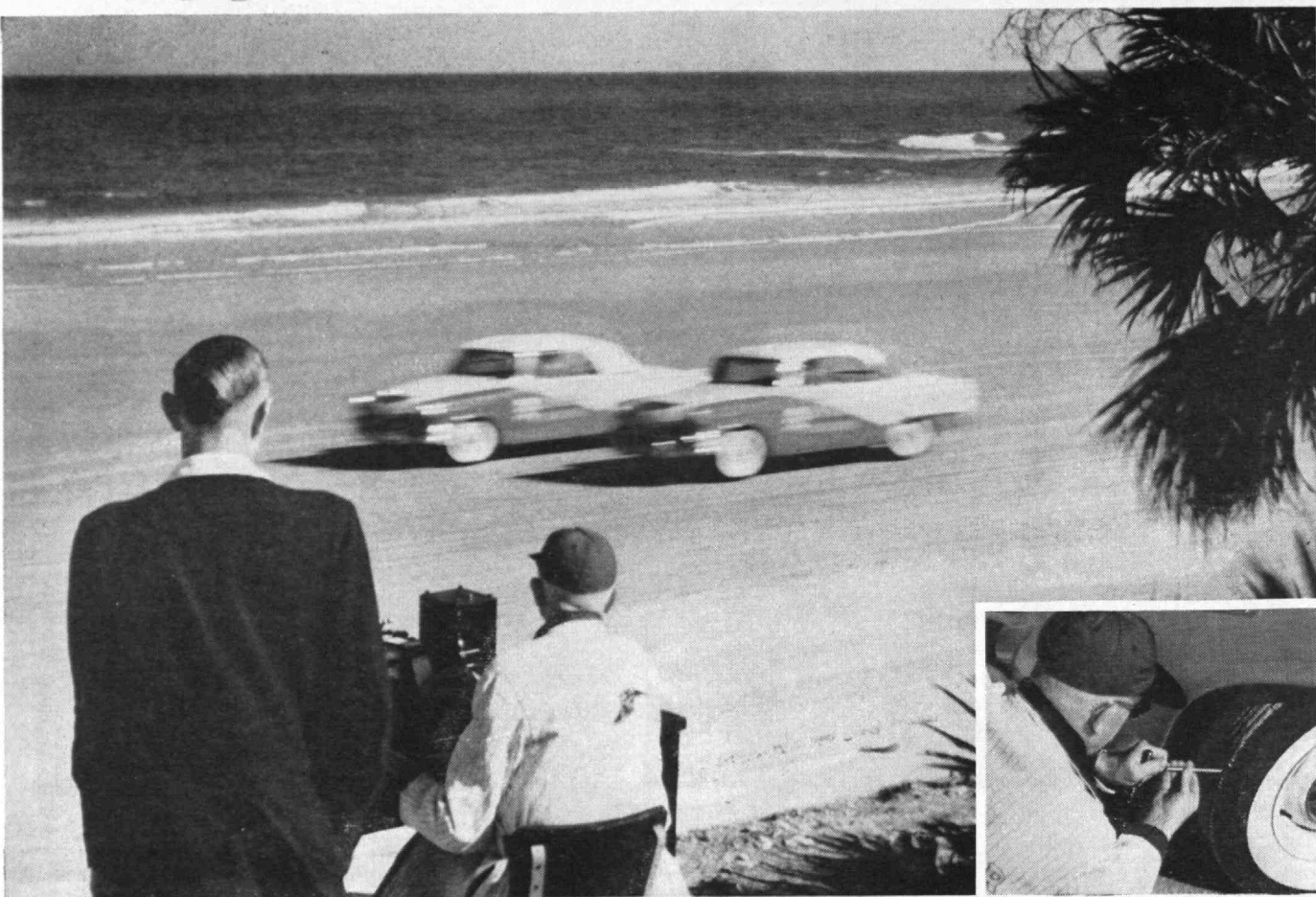
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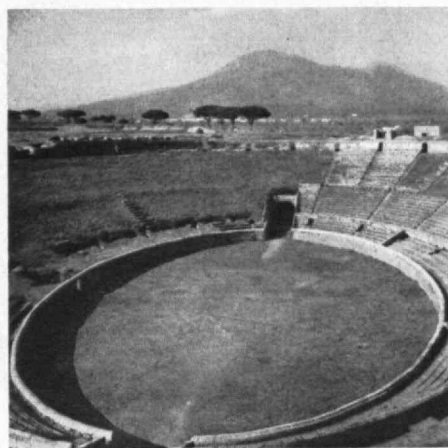
Super-Cushion, T. M.—The Goodyear Tire & Rubber Company, Akron, Ohio

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THE TECHNOLOGY REVIEW

Vol. 57, No. 6



April, 1955

The Trend of Affairs

"Staphs" of Life

ALTHOUGH the antibiotics truly merit the epithet "wonder drugs" bestowed upon them by journalists, they have failed to fulfill some of their early promise in the control of infections. This partial failure has been the result of increasing resistance to antibiotics among certain infection-causing microbes. In consequence, some infections that waned in frequency and killing power, during the early years of antibiotics, are now again on the upswing.

Especially prone to develop antibiotic resistance are the staphylococci—"staphs" in medical slang. These spherical bacteria, also known as micrococci, aggregate in grapelike clusters. They are ubiquitous, and are to be found in the noses and throats, on the skins, and elsewhere about the body of virtually all human beings. Many types of staphylococci are harmless; but others can cause infections that are sometimes minor, sometimes serious, even lethal.

As a result of the current intensive use of antibiotics in hospitals, these institutions have become reservoirs of antibiotic resistant staphylococci. Such bacteria are reported to occur not only in patients under treatment, but also in healthy hospital staff members, who no doubt originally get them from patients. Thus, staphylococci of all types were found to be more than twice as common in the respiratory passages of patients just discharged from a communicable disease hospital, as among members of the patients' families who had remained at home.

Furthermore, 88 per cent of the staphylococci from the discharged patients were resistant to antibiotics, whereas only 30 per cent of those from patients' families were resistant. Staphylococci from the noses and throats of hospital personnel were 85 per cent antibiotic resistant—the same high proportion as among the patients.

Several instances were observed where a specific antibiotic resistant strain of staphylococci, brought home from a hospital by a discharged patient, had been transferred to another member of the family. Thus, hospital patients may become carriers of antibiotic resistant staphylococci they acquire as a result of treatment in a hospital, or else pick up within the hospital from other patients or from the hospital staff. Resistant microbes may then be transferred to the outside community by discharged patients.

Where did the antibiotic resistant germs originally come from? A recent study suggests that the answer may be simply "survival of the fittest." Methods of classifying staphylococci, based on their reaction to bacteriophage, indicate that the resistant strains apparently existed before the antibiotic era as members of a mixed bacterial population. Since the advent of antibiotics, the susceptible forms have been waning, the resistant forms becoming more dominant.

What is being done about the problem? Sometimes infections resistant to the older antibiotics are controlled by use of newer ones. But this procedure will in time become ineffective, as the discovery of new antibiotics must in time cease. The biochemical basis of antibiotic resistance in microbes is under intensive study, in the hope of finding means of overcoming it. Still another approach is to prevent hospitals from being reservoirs of antibiotic resistant bacteria. This is done by teaching hospital personnel that they dare not be complacent just because the "wonder drugs" are available; that the old-fashioned methods of sanitation, to prevent mechanical spread of microbes, must still be observed as carefully as ever.

◀ *The spirit in this forceful statue of Paul Revere (photographed by Raymond E. Hanson) marched across the nation again when appeals were spread, and met success, to restore the hurricane-damaged steeple of Boston's Old North Church shown in the background. The hurricane which swept New England last fall was no respecter of tradition, but Americans have evidenced their determination to preserve our historic landmarks.*

Local Buckling

IN the design of typical welded structural members used in bridge building or ship construction, the strength requirements may sometimes be satisfied by using intermittent, rather than continuous, fillet welds. There appears to be no experimental or theoretical evidence to substantiate current design specifications governing the use of intermittent fillet welds, however. The Structural Steel Committee of the Welding Research Council, therefore, sponsored a project to study the local buckling behavior of intermittently welded structural members.

This project was completed recently in the Structural Analysis Laboratory of the Institute's Department of Civil and Sanitary Engineering. Dimitrios A. Polychrone, '47, Louis J. Capozzoli, Jr., '50, and John B. Scalzi, '40, research assistants, conducted this research under the supervision of Charles H. Norris, '31, Professor of Structural Engineering.

When intermittent fillet welds are used, the clear space (or gap) between welds must be short enough to preserve essentially all of the local buckling resistance which the component parts of a member would possess if the welds were continuous. In many cases, the determination of the local buckling characteristics of the component parts of welded struts and flexural members reduces essentially to the study of the buckling of long rectangular plates compressed on the ends and supported on the sides in various manners.

In this project, a theory was developed for the buckling of compressed rectangular plates, which were supported intermittently on the long edges. This theory was compared with the results of an extensive series of tests on both intermittently and continuously supported plates. Based on these plate tests, 12 columns and six beams were designed and tested in the Institute's Structural Analysis Laboratory.

On the basis of the theoretical and experimental results of this program, the following conclusions

appear to be justified: (1) If the critical gap-width ratios of the various plate elements are not exceeded, a column with intermittent welds retains essentially all the local buckling resistance of a column with continuous welds. (2) Columns with intermittent welds cannot take the abuse of those with continuous welds, however, and will buckle locally if the average stress is slightly more than the yield point. (3) statements similar to (1) and (2) above, likewise apply to beams, even though in certain cases the intermittent welds are carrying rather large shears.

It is recommended that consideration be given to revising current design specifications to include the following ideas: (1) Limiting the permissible gap between intermittent fillet welds to 16 times the plate thickness does not appear to have a very sound and logical basis. From this research, it would seem more rational to limit the gap by using the critical gap-width ratio criterion. (2) Because members with intermittent welds will not take much abuse at stress levels in excess of the yield point, perhaps the use of intermittent welds should be restricted to secondary members.

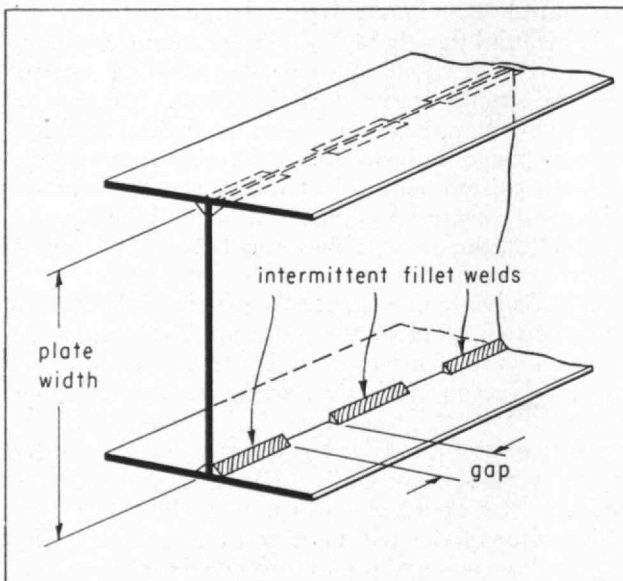
The use of intermittent welds appears to be undesirable both from the viewpoint of local buckling resistance, and of fatigue properties. Thus, it seems that light continuous welds should be used instead, in cases where intermittent full-size welds are being considered.

Open Wider, Please

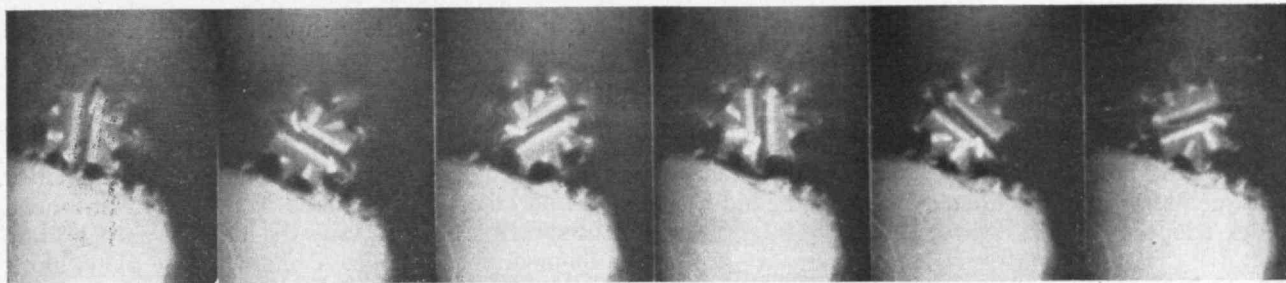
MUCH of the discomfort of dentistry arises from the vibration and heat generated by "drilling" — the removal of decayed tooth structure. Since all must undergo periodically the ministrations of the dentist, news items about alleged improvements in tooth drilling usually make the front pages. Thus through the years we have read about invention of contrivances of many sorts asserted to make tooth drilling relatively comfortable. But, alas, none of these devices ever seems to reach practical use at the dental chair. Steel or tungsten carbide burs or abrasive stones, rotated in a chuck driven by a flexible shaft, remain the standard methods for drilling teeth.

Some years ago a prominent eastern dentist averred that he was able to obtain (at considerable cost it is true) selected and hand-finished steel burs with which teeth could be drilled comfortably. A rational basis for this assertion has just now come from sequential photographic studies of the cutting action of rotating dental instruments, conducted at the National Bureau of Standards of the U. S. Department of Commerce, with collaboration of personnel from the U. S. Air Force Dental Service. These studies revealed that most dental burs cut inefficiently, and vibrate excessively, because of eccentricity or blade irregularity. If the handmade burs referred to were quite symmetrical and had regular blades, they no doubt did reduce discomfort to the patient.

The National Bureau of Standards photographic studies were done with 16-millimeter high-speed motion picture cameras, operated at from 3,000 to 14,000 frames per second, in order to obtain clear pictures of burs rotating at from 2,500 to 10,000 revolutions per minute, approximating regular low

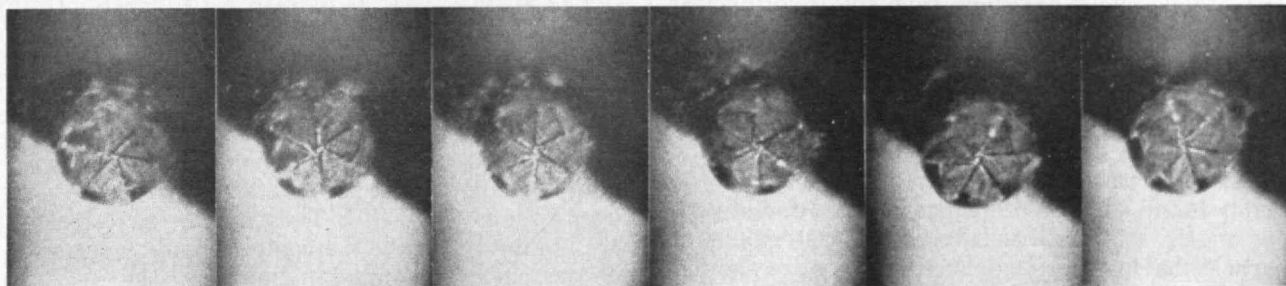


Beam with intermittent welds has essentially the same resistance to local buckling as one with continuous welds, provided critical gap-width ratios of the various plate elements are not exceeded.

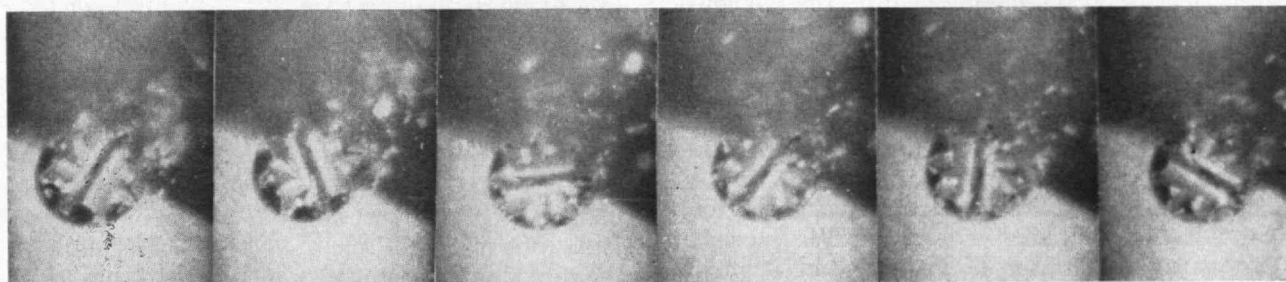


Photos by National Bureau of Standards

High-speed motion picture frame showing eight-bladed tungsten carbide bur cutting human enamel.



Here another high-speed picture reveals a six-bladed steel bur cutting human dentin.



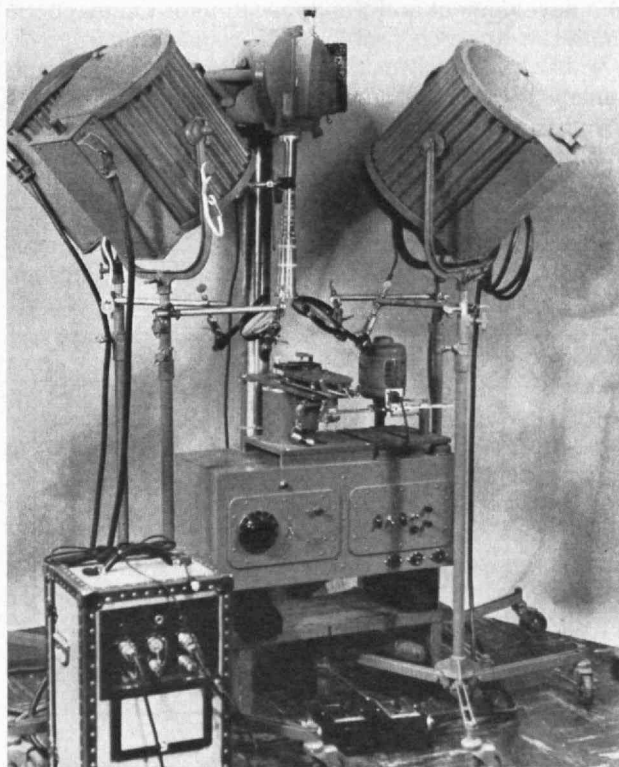
Tungsten-carbide bur cutting human dentin. Larger chips formed by this bur tend to be thrown out of the operating field.

to high dental operating speeds. These films, projected at 24 frames per second, enabled detailed observations of cutting action. High intensity illumination, from eleven 750-watt prefocused flood lamps plus four 1,000-watt spotlights with parabolic reflectors and condensing lenses, was needed because of the short exposure (as little as 1/70,000 second at $f/9.2$) resulting from the high-speed operation of the cameras.

The films revealed that most of the dental burs observed were inefficient cutters. One type of bur invariably clogged. Pulverized cuttings resulting from inefficient bur action tended to follow a vortex of air created by the revolving bur back into the excavation, thus obscuring the field of operation.

A salient observation was that most of the standard dental burs studied were eccentric, or had irregular blades, or both. These conditions resulted in bouncing, which produced vibration. Bouncing also threw the instrument out of contact with the tooth during part of the revolution, so that not more than half of the blades actually cut. Symmetry and correct blade design, rather than sharpness, determined cutting efficiency. Thus improperly designed tungsten carbide burs cut poorly, even though the blades remained sharp.

The gross observations of cutting efficiency of the rotating dental instruments were quantified, by drilling test substances — such as various tooth tissues —



For slow-motion photography of rotating dental burs, the National Bureau of Standards used this high-speed motion picture camera and auxiliary equipment.

for fixed periods of time with constant speed and pressure, and determining gravimetrically the amount of tissue removed.

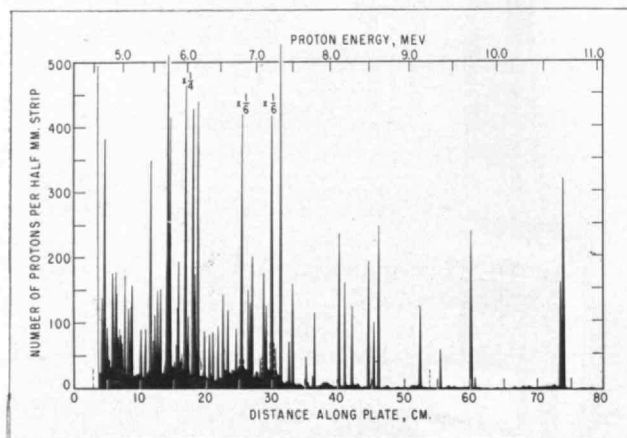
These revelations of the inefficient design of standard rotating dental-cutting instruments lay the basis for improvements. Let us all devoutly hope that such improvements are made forthwith, and find quick adoption by our own dentists.

Magnetic Spectrograph

MUCH of our knowledge regarding the structure of atomic nuclei has come from studies of nuclear reactions. In such studies, one bombards nuclei with a beam of atomic particles (such as protons, deuterons, or alpha-particles) and measures the emitted particles and radiation. The variables which can be controlled are the energy and the direction of the bombarding particle; measurements are made on the numbers and energies of the particles emitted at various angles. Experiments have shown that groups of particles having sharply defined energies are emitted from these reactions, each group corresponding to a particularly stable configuration of the constituents of the nucleus. If the bombarding energy is known, measurements of the energy of the emitted particles enable the calculations of the excited states of the nuclei involved. Such information is analogous to that obtained from the analysis of atomic spectra, the study of which provided the principal clues to understanding the electronic structure of atoms.

In the years since World War II, a research group at the Institute, headed by William W. Buechner, '35, Associate Professor of Physics, and including Cornelius P. Browne, Charles K. Bockelman, and Anthony Spurduto, '42, has played a leading part in the development and the application of the magnetic analyzers to such problems. The magnetic spectrographs developed for this purpose will record simultaneously a large number of particle groups, the arrangement of magnetic field and detector being such that precise measurements can be made on the intensity and energy of each of the groups emitted from the nuclear reactions.

Recently, this group completed and put into operation a new magnetic spectrograph of unique design.



Typical energy spectrogram for target of aluminum on formvar, bombarded with deuterons, as determined by magnetic spectrograph

It is designed to allow rapid adjustment of angles of observation and permits the detection of particles over a comparatively large range of variables so experimental data can be obtained extremely quickly.

By means of a system of slits, a sample of the particles emitted at a particular angle from the nuclear reaction enters the magnetic field of the instrument. The spectrograph disperses the incident particles into a momentum spectrum. A photographic plate, along the line of focus of the instrument, can record the arrival of a single atomic particle.

After exposure and development, examination of these plates reveals the number of particles as a function of their momenta. Thus, information can be readily translated into the energy of the excited states of the nuclei responsible for each of the observed particle groups. For a particular setting of the magnetic field in the spectrograph, the exposed photographic plates record particles with energies varying over a range of 2.4 to 11. Thus, only a few exposures are required to cover the complete energy spectrum of the particles emitted in nuclear reactions. The instrument is so designed as to take full advantage of the new energy range opened up by the accelerator recently built at M.I.T. with support of the Office of Naval Research. The spectrograph is mounted so that it can be rotated about an axis passing through the target in which the reaction under investigation is produced so that observation can be made at any angle between zero and 135 degrees with respect to the beam from the accelerator. Typical of the results obtained with the spectrograph is the curve shown. Data were obtained from a single exposure and show the proton groups emitted when an aluminum target was bombarded with 6-Mev deuterons.

While this apparatus was developed for precision measurements in nuclear physics, its accuracy, resolution, and sensitivity open up interesting possibilities for its use in other fields. From energy measurements on particles elastically scattered from materials placed in the beam from the accelerator, it is possible to determine the composition of the material bombarded. The amount of energy lost by each scattered particle during the inelastic collision depends upon the mass of the nucleus doing the scattering. From measurements on the photographic plates, the mass spectrum of the particles in the target can thus be obtained. Under favorable conditions, exceedingly minute quantities of material can be detected in this way since a layer only one atom thick in the target gives rise to a measurable number of scattered particles. This method for surface analysis actually is used during the course of experiments in nuclear physics to provide a measure of the number of atoms of various masses present in the target used for the experiment. This method of analysis is inherently capable of great accuracy and sensitivity and may find application in industrial processes where exceedingly minute quantities of material must be determined, as in tracer studies.

This development has been carried out in the Laboratory for Nuclear Science at the Institute. This program is supported in part by the joint program of the Atomic Energy Commission and the Office of Naval Research.

Peaceful Uses of Atomic Energy

*Dissemination of Technical Information and Help
on an International Basis Are Viewed As Means
of Making the Atom Man's Servant of Peace*

By WALTER G. WHITMAN

I SHALL introduce this talk on the peaceful uses of atomic energy by sketching a framework of public policy within which tremendous activity is developing. My reasons for approaching it this way stem from the experience of the last four years as a member of the General Advisory Committee to the Atomic Energy Commission, including two years in the Pentagon which were concerned almost solely with military problems. Many decisions are being made today which can be best understood if one views them against the background of public policy.

Atomic energy is so relatively new that any valid over-all appraisal of its effects is impracticable today. But one conclusion is certain: atomic energy can be completely catastrophic. It has already revolutionized military problems in strategy and tactics, in equipment, and in forces. It has markedly modified the foreign policy of the United States, and of many other countries on both sides of the Iron Curtain. Potentially the bomb could be developed and possessed by many other nations besides the three that now have it: the United States, Russia, and England. This opens rather frightening prospects if you think ahead. Its ultimate effect on the possibilities of peace are quite incalculable. It may destroy civilization. On the other hand, it may be the imperative challenge which will bring powerful nations to their senses and eliminate major wars.

A little over a year ago, President Eisenhower delivered a message of remarkable statesmanship before the General Assembly of the United Nations. In it he pictured the intolerable situation of two nations armed to obliterate each other and glowering with hostility, but not yet able to find a constructive solution. General [Douglas] MacArthur spoke eloquently in the same vein only late in January. The President outlined an atoms-for-peace program which called for the joint development of the peaceful potentialities of atomic energy as a crusade which would enlist the talent and the enthusiasm of all nations to the benefit of all. He undoubtedly had in mind the tremendous psychological advantage of constructive and co-operative endeavors in a field which has been dominated primarily by suspicion and enmity.

It is against this general policy background that we might consider the plans and the prospects of the atomic energy program. The most highly publicized peacetime use of atomic energy is for the generation of electric power. The technical possibility has been

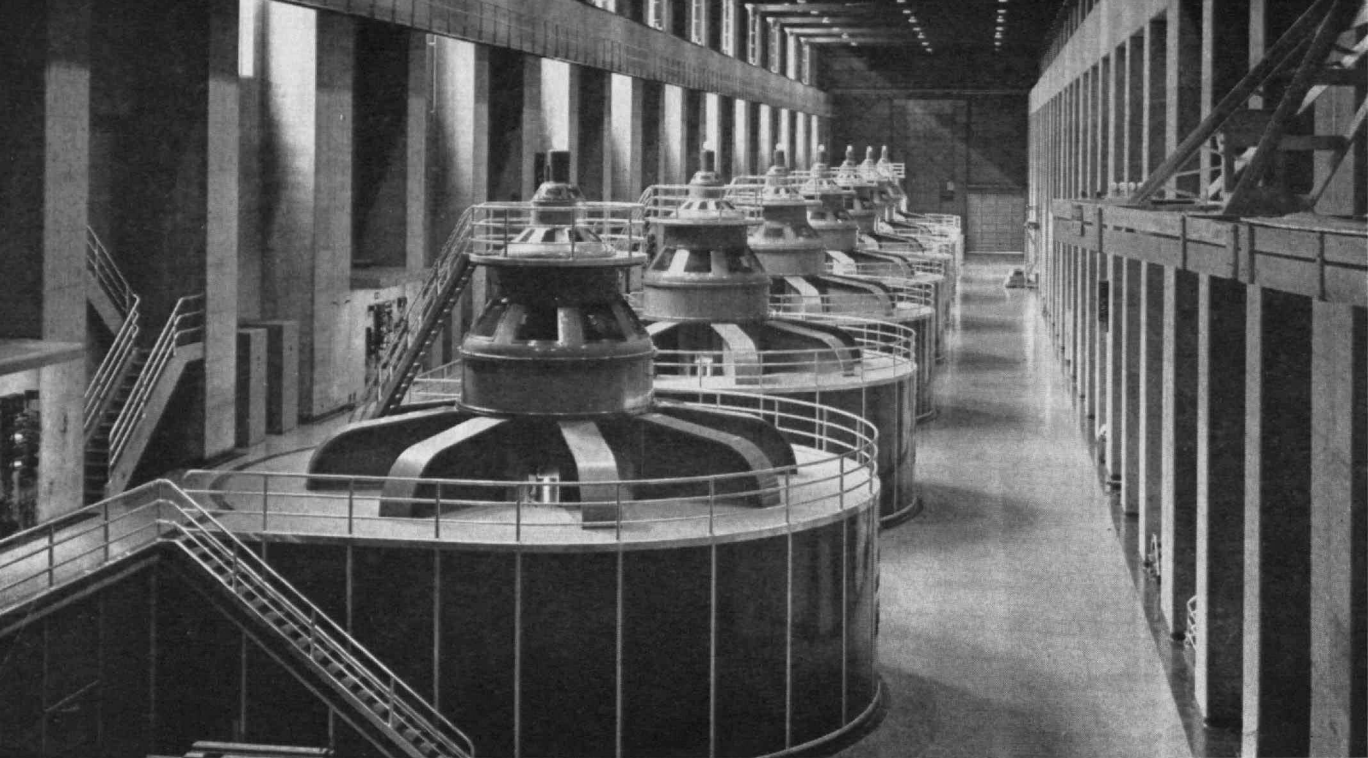
recognized from the start because the controlled fission reaction will release tremendous amounts of energy, and there are many ways in which you might consider utilizing it to make electricity. To date, however, all of these methods which seem practicable involve making steam, which is then used to run turbines.

Some of you know quite a bit about the field of nuclear reactors, but to others the topic may be quite new. You have heard different ways of classifying reactors so I shall merely mention a few of the common classifications and indicate, in oversimplified terms, what they mean.

You have heard about heterogeneous reactors and homogeneous reactors. A heterogeneous reactor has fuel elements — fissionable uranium or plutonium — in solid form, such as rods, tubes, or plates. It is called a heterogeneous reactor to differentiate it from the homogeneous systems. In a homogeneous reactor the fissionable material is in fluid form, such as a solution in water — ordinary light water or in heavy water — or perhaps dissolved in a liquid metal or fused salts. The idea of a homogeneous reactor is naturally attractive to the chemical engineer because it gives him a chance to design a continuous circulating process. However, at the present time, some of the heterogeneous reactors are much further developed toward practical operability.

You have also heard a classification on another basis, dependent upon the energy of the neutrons at the time when they cause fission. This is the distinction between fast reactors and thermal reactors. In fast reactors the neutrons effect fission at the very high energies at which they are liberated; whereas in thermal reactors the neutrons have been slowed down to a fairly low-energy level (thermal energy) before the fission takes place. This slowing down is done by means of moderators. Water is a moderator, heavy water is a better moderator, graphite is a moderator, and beryllium is a moderator. Therefore the reactors are sometimes described as graphite reactors, heavy-water reactors, and the like. These terms refer to the method of slowing down the neutrons to get them into the thermal range. I might add that thermal reactors are the ones that are of the most interest for power production in the near future.

Another classification is between breeders and converters. In a breeder you can start in with a certain amount of naturally fissionable material and end up



H. Armstrong Roberts

with more than you started with, because you have "bred" fissionable material from something which originally was not naturally fissionable. Converters do not go as far as that: they do not make as much new material as they consume. It is therefore very attractive to think about having a breeder reactor which will actually generate additional material and be more than self-sustaining, but as a practical matter this is exceedingly difficult. Looking way ahead, it is entirely probable that we will have large breeder reactors in operation. The big urge to get them, however, will come when the demands for fissionable material for power are so great that one cannot have an adequate supply unless he breeds it in a reactor. For quite a long time to come, the breeder will be something that we are struggling toward, and hoping to get sometime, but do not need vitally at the moment.

There is still another classification based on the method of cooling the reactor. Many reactors are cooled by light water, but heavy water, a gas such as helium or carbon dioxide, liquid sodium, liquid bismuth or a fused salt system are other methods. I have just touched upon these various terms which are used in describing reactors so that you will see what the classifications mean.

Last year the Atomic Energy Commission adopted a policy of support for five reactors which will be built in a program for developing electric power. One of these reactors is a big one, to be built by the Duquesne Light Company and the Westinghouse Electric Corporation, near Pittsburgh. It will be paid for primarily by the government, but the Duquesne people will contribute quite a bit of cash to the development. This could be called a large demonstration reactor to demonstrate that one can produce steadily a significant block of power that can be fed into a regular power system. No one has the slightest illusion that it will be economic. The power is going

to cost a great deal more than equivalent power could be made by putting up a steam boiler plant. The other four plants in the program are what we might call pilot plants. They will be much smaller in size but will be prototypes which will be used to develop enough engineering experience to justify going ahead with a big plant, if the estimates show that the process is anywhere near reasonable.

I might give a little description of the cycles in three of these plants to get down to earth for those of you who are not familiar with the plans. The demonstration plant at Duquesne Light Company will be a heterogeneous reactor where fuel elements containing the fissionable material are immersed in a bath of ordinary water. They will be installed in a vessel which will stand very high pressure in which the fission process can go on; the water can moderate the neutrons to bring them down to the proper energy level, and at the same time the water will be circulated to take away the heat. By maintaining very high pressure — which requires a very expensive vessel — one can avoid any boiling of the water in the reactor. This very hot and radioactive water will be pumped around through a heat exchanger, where it will heat a stream of water at lower pressure which will be made into steam and go off to the steam turbines and develop power. Of course, the secondary circuit, where steam is made from ordinary water, will not be radioactive. This is about the system that is used in the *Nautilus*, the atomic-powered submarine.

A second type of reactor to be built — the one that North American Aviation, Inc., is working on with A.E.C. and its own funds — is based upon using sodium rather than water as the cooling fluid and employs graphite as its moderator. This is another heterogeneous reactor with solid fuel elements. The hot sodium which has cooled the reactor is pumped through a heat exchanger, giving up its heat to water

which is thus made into steam for the turbines. Actually I believe that turbines will not be installed because there is no need to prove that steam at such and such a temperature and pressure will make electric power if you put it through turbines.

The third device which I will mention is quite ingenious if it will work. It is called a boiling water reactor. Until recently it was thought that if the reactor were immersed in water you could not afford to let the water boil, because if any steam were formed the system would go completely out of control. Scientists at the Argonne National Laboratory suspected that this might be wrong and that you could let the water boil right between the reactor elements themselves. The Argonne people tried it out — out in Arco, Idaho — and lo and behold it worked pretty well. This now forms the basis for a scheme whereby the reactor itself becomes the water boiler and makes the steam which goes over to the turbines. There are lots of possible difficulties. In a system like this the water gets tremendously radioactive and the steam will be somewhat radioactive, so the turbines and condensers will get slightly radioactive. It will take actual experiment to find out whether this will be a system which will operate satisfactorily, but if it does, you have eliminated the entire intermediate system of making steam in a separate heat exchanger.

The economic problem in the United States can be expressed in somewhat oversimplified form by saying that if you use atomic energy you are making steam by substituting the energy from fission for the energy from burning coal, oil, or gas. This is on the assumption that we have not yet found some better way of using atomic energy to make electric power than first making steam. Therefore to be competitive in the United States with power from coal, oil, or gas, one must get the investment costs and the total costs of the system down into a reasonably competitive range. Practically that means while you can save on fuel costs, you must learn how to build a plant with an investment that is somewhere close to the investment in a steam boiler. That is a pretty tough challenge. The investment does not have to be as low as that of a steam boiler, but it must be within gunshot, otherwise investment charges just lick you. I am talking now on the basis of current prices of coal, oil, and gas. On these first plants the investment will, of course, be far too high. Thus, the plant that is being built near Pittsburgh may represent an investment of \$1,000 per kilowatt of capacity, and you really must get down much lower to make interesting competition.

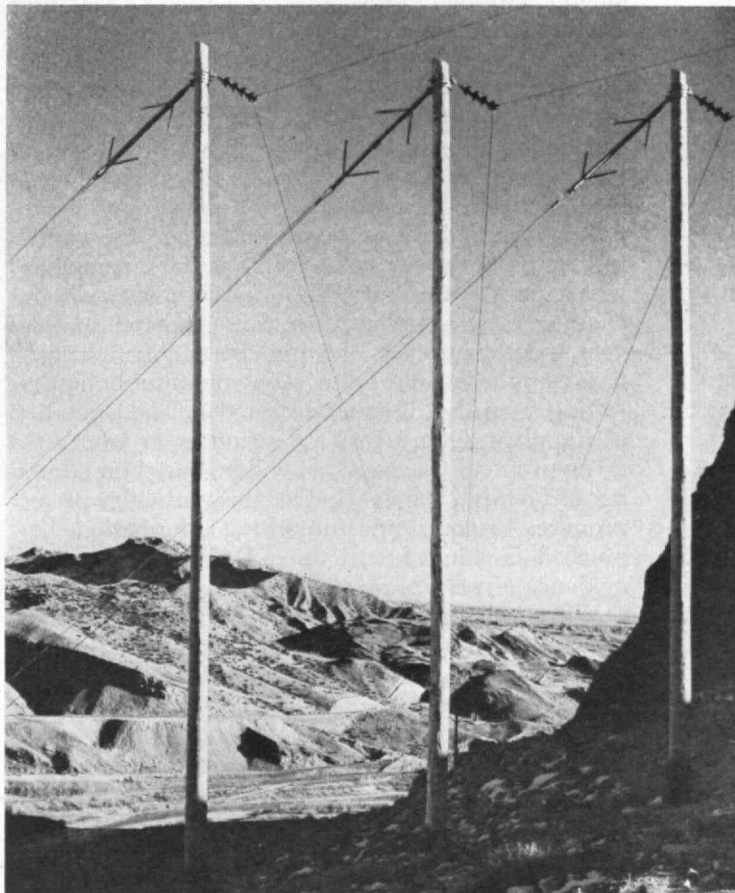
The technical problems are very difficult, but there are some top-notch brains working on them. I guess if one thought back in the oil industry, a good many of the things which we do today looked to be almost impossible when we first tackled them. While one must recognize some very serious barriers there is no reason to feel that just because we do not know how to surmount certain problems today, there is no reason to think it cannot be done. Experience is accumulating all the time and new materials and methods are being developed. Incidentally, industry as a whole is getting a great deal of new knowledge

and capabilities from the experimental work that is going on to develop atomic power reactors.

As you probably know, there have been many studies of atomic power by associated groups of companies — usually utilities, equipment manufacturers, and perhaps a chemical company working together — for the Atomic Energy Commission. All the information that was needed was laid before them and this industry group came up with a report to the A.E.C. giving their views of how atomic power might be produced industrially. Of course, the A.E.C. rather hoped that a little hard cash for construction would be laid down on the line, but all of these studies pretty much convinced the A.E.C. and Congress that it was premature to expect private capital to take much risk at this stage. Congress co-operated by passing a new Atomic Energy Act which makes it much more practicable for private industry to get involved in the private generation of power.

The Atomic Energy Commission is now putting out feelers to see what might be developed. On January 10 they issued two releases, one of which marked a rather important step in establishing a schedule of prices that the A.E.C. would charge if a company wanted to buy or rent materials from the A.E.C. for power purposes, and prices that it would pay for plutonium, used fuel elements, or things like that. The price of heavy water is included in the list. These prices have not been publicly released. The announcement merely says that the A.E.C. has set these prices, which will hold for a seven-year period, and companies who are interested and have the necessary clearance may see them.

Photo by Collier from Standard Oil Company (N.J.)





Raymond E. Hanson

The other announcement concerned the A.E.C.'s desire to get proposals from industrial groups for building plants to make power. The A.E.C. expects to be involved in some subsidy for these big demonstration plants. That is just realism. They are inviting applicants who are willing to assume the risk of construction, ownership, and operation of reactors (designed to demonstrate the practical value of such facilities) to send in their proposals to the A.E.C. and let the Commission see whether any of them are interesting enough to be approved. The methods of support that the A.E.C. can give are something like these: They can rent out fissionable materials — fuel elements and so forth — to the private producer and then waive any rental payment so that he really gets them free except for any losses. Another way of support is for the A.E.C. laboratories to perform certain research and development work for these companies which is pertinent to the development without charge. A third method is to give a research and development contract to the applicant under which he is to supply technical and economic information resulting from the design, construction, and operation of his plant. The A.E.C.'s decision as to whether a given proposal is acceptable will be based on a number of factors, such as whether this particular project promises to contribute interesting information, how much it is going to cost the A.E.C., and how much evidence of private risk-taking there is in it.

When will atomic power come? There are so many factors in it that I do not see how anybody can tell with accuracy. Individual estimates depend a good deal upon optimism or pessimism, but here are some important factors. How well are these pilot plants going to run? Will the experience with them quickly permit designs in which the investment costs can be reduced to reasonable figures, remembering that

safety factors have to be carefully considered? Certainly there is a big expansion in the total demand for power ahead and it will be quite possible for atomic energy to come into the country's power system — and still all the other ways of making power may be expanding at the same time. Whether the present strong government support will be continued as a matter of policy is of course very significant. Will there be a sharp change in the government's attitude? Frankly, I do not think so. Experience with military propulsion plants, such as the submarine and the aircraft, and with the small package power unit that the Army wants for the Arctic and other isolated locations, will aid progress toward power plants for electric utilities. What will be the price of coal in the future? I speak of coal rather than of oil or gas because, in the long run, coal is the backbone of this country's electrical power output. It is not really important to the oil industry, or to the gas industry, whether very much of their product goes into the manufacture of electric power.

It is quite evident that atomic power will be attractive in other countries before it is in the United States. Britain, for example, which used to export coal, is now importing coal as well as oil. They are really far more interested in using atomic energy than the United States is because it offers another source of energy and promises to release them from grave restrictions on future power supplies and their expansion. Brazil and many other countries which must import fuel are eager for it. It is anybody's guess as to when atomic energy becomes really significant as a power producer. I would guess that we will have a number of good-sized atomic plants in this country within the next 10 years. Whether any of these plants are going to be economic without subsidy is

(Continued on page 312)

The Changing Role of Management

Management's Reborn Confidence in Itself Is Based on

Belief in Willing Co-Operation of People, and

Confidence in Abilities of the Individual

By DOUGLAS M. MCGREGOR

ABOUT the time the sit-down strikes occurred in Detroit, I entered the field of human relations in industry. Some of you may remember back to those trying days. During the almost 20 years since then, I think it is fair to say that there has been a major revolution in the thinking, the practices, and the philosophy of American management.

This is not true, of course, of all management. It is most apparent today at the top of organizations, although it is filtering down through lower levels too. Most of us have been so close to the day-by-day problems that it is hard to realize how much change has occurred in the time of which I am speaking. Let us consider, for a little while, some of the changes that have occurred in the period of the last 20 years.

It is easy to list certain developments that have occurred in the management field. Many new programs and practices of management have come along, to be sure. However, I am looking for something more than this. What are the broad changes in point of view that have affected management's role as it has operated in American industry? What are the significant threads that are gradually making a pattern in the fabric of our industrial life? There are several of these, and I propose to talk about three which seem to me to be especially significant.

The first thread I would like to mention is the realization that the successful operation of an industrial organization, in a free enterprise system, requires the *willing* collaboration of the people who comprise the organization. We have not always believed this to be so. In fact, this idea wasn't at all common even 20 years ago. The prevalent notion in management thinking in those days was that if the work was to get done, people had to be made to do it. The basic concept of motivation we relied on was that of fear. Fear of loss of employment and other forms of economic punishment was what management used to keep people at work.

Throughout these last 20 years and more, we have discovered that force in human affairs — as in physics — breeds counterforce. We have discovered the degree of ingenuity that human beings can exercise against management in such forms as restriction of output, all kinds of subtle sabotage, militant unionism, and the like. We have begun to learn that, if we attempt to use force, the counterforces will tend to defeat the purpose we are trying to achieve. Therefore, most of us have come to the realization that it

is management's task to create the kind of conditions that lead people to want to do the job, and to collaborate willingly in achieving organizational goals.

In looking back, I think evidence is to be seen of the growth of this conception in management's thinking. Consider, for a moment, the developments in wage and salary administration over the past 20 years. Certainly these have served one important purpose — that of helping to convince people that their wages and salaries are set on a fair basis, and that they need not be concerned about arbitrary action. If people are convinced that their earnings are equitably established, perhaps they will be more willing to collaborate with management.

In most companies the basic climate in which union-management negotiations occur has changed very remarkably in the past two decades. We still read about an occasional difficult conflict situation in the newspapers. But close study and examination (such as the National Planning Association has given in recent years) to bargaining in companies where the relationship has settled down and become "healthy," indicates an entirely different pattern than was formerly characteristic. Today we see the pattern of people working across the table from each other, trying to find the reasonable and fair way to resolve their differences so that all will be willing to work toward a stated goal or objective.

The development of the personnel administration function has helped to create willingness in the organization. For example, consider the importance we place, today, on good communications in an organization. Throughout the entire organization we strive to let people know what is going on, to help them understand the changes that are about to take place, and therefore to be more willing to adjust to the circumstances they have to face.

And finally, consider the general emphasis which today's management places on the whole structure of motivation. We have been shifting around from the negative emphasis on fear, to the search for positive incentives which will lead people to collaborate willingly toward organizational objectives.

To a large extent these changes have resulted from trial and error. One company discovers something useful, or a university conducts some research that leads a management to try out a new method. If the new technique works out well, other companies copy or adopt it. We like to "keep up with the Jones's"

in this field as we do in other respects. Gradually a lot of changes occur. Finally, out of the details of improved practice and the gradual day-by-day shift in our attitude or policy, something emerges that is broader and deeper than any of the contributing factors. We are becoming genuinely conscious of the fact that the willing collaboration of everybody in the organization, from the Board of Directors to the janitor, is essential if we are going to get the output — and the economic results and the human results — we desire.

The second thread involves another matter of attitudes. This is a growing feeling of confidence, on the part of management, in the potentialities of people. We no longer hear management talking about employees as "hands." Labor is no longer seen solely as a commodity. We are beginning to regard people as individuals — whole human beings — who have remarkable potentialities. By and large we have not yet tapped these potentialities in industry, up to now.

"Potentiality" may lead you to think in terms of productivity. However, I am not concerned with productivity in the narrow sense of the word — of how many ergs of energy a man develops, or how many units of effort per hour (or per day) he expends, or whatever else is usually meant by productivity. Productivity is important, of course, but sometimes we tend to overemphasize it. What I am concerned with is the potentiality which we sense when we become aware of what ingenious, creative minds can do when there is encouragement, under the proper circumstances, to help make the enterprise a more successful one.

Ingenuity is a cornerstone of our civilization. It is characteristic of the janitor and the bench hand, as well as of the director of research and the vice-president. Only now are we beginning to recognize these potentialities. I have a feeling that 20 years from now we may look back on our present attempts as clumsy and inept ones, but there are signs that we are groping in the right direction.

One example of present groping is that whole area which is practically a fad today in management thinking: decentralization and the delegation of authority. This topic would not be emphasized if we did not have increased confidence in people. We don't talk so much today about the concept of span of control — that one man can supervise from five to seven other persons — even though this topic is still treated in textbooks. The reason for this is that we have begun to change our conception of supervision, particularly at higher managerial levels. We realize that it isn't necessary to "breathe down the neck" of every man who is reporting to us, to control his actions.

The concept of decentralization means, in effect, that we have enough confidence in men to outline the broad range of their responsibility and authority, and then to turn them loose to find a way to do the job — without supervision in the narrow sense, but with full expectation that their efforts will produce the desired results.

This kind of relaxation of control is possible only because we have come to have a genuine confidence in people and what they can do. Firms, such as

Sears, Roebuck and Company, and Johnson and Johnson have demonstrated some remarkable achievements along the lines of delegated authority.

In the last two or three years the same concept has been carried still lower in the organization, and today we hear about job enlargement. To be sure, in part, job enlargement has been accelerated by the process of automation that has been discussed at the Regional Conference this afternoon. The people in an automatized organization must exercise a different and higher level of judgment than those in firms where automatization has not yet appeared. People are upgraded for their higher level of judgment, as they have been in the oil industry, which has largely gone through the automation process. Today we recognize that the worker is capable of exercising judgment, and so job enlargement is coming to replace excessive specialization, which has been characteristic of the last few years.

The concept of participation is bandied around a great deal today in industry. It represents, in one more way, a growth in management's confidence in people and their potentialities. When the idea of participation was first introduced, 10 or 15 years ago, it came with the idea that we needed more "democracy" in industry. However, the rather naïve idea that democracy implies that everyone is going to decide everything is not the core of the concept of participation.

There is quite another characteristic of democracy which is relevant to participation. It is this: If people are freed from the restraints of rigid authoritarian control, then — given proper circumstances and motivation — they will help to create a better society. This is the concept of participation which we are gradually exploring and finding to be very fruitful.

The work of my colleague, Joseph N. Scanlon, lecturer in the Department of Economics and Social Science at M.I.T., has led to the adoption of the participation idea harnessed and utilized in a special manner — the Scanlon Plan — in a number of industries. Most of the companies which have adopted the plan are showing remarkable economic achievements, above anything that would have been predicted.

We have a great deal more to learn about the limits of participation and about its potentialities, but the point I wish to make is simply this: Management would not be experimenting at all with the idea if some fundamental attitudes had not shifted. Management has, today, a new confidence in people and what they are capable of doing.

The field of executive development provides still another illustration of changes in managerial thinking. Instead of seeking personnel for top management posts in a very small stratum of our industrial society, we are recognizing that potentialities, latent in many people, can be developed so that they can become capable of top management responsibility.

A year and a half ago, I had the experience of attending a 13-nation European conference on the subject of executive development. It was interesting to see how our European friends were only just beginning to grasp the importance of this concept which, after 15 or 20 years, is now quite familiar to us. For



H. Armstrong Roberts

generations Europeans have attempted to draw their managers from a very narrow segment of society on the assumption that this segment contained the only people with the necessary capacity. It was only when this small group could no longer supply the growing need that attempts were made to look lower down in the organization for potential leaders.

Finally, in this connection, I refer again to our current emphasis on communications. When, through programs of communicating with employees, we attempt to tell them what we are about, we do so because we have confidence in their good sense. Otherwise we would not bother to tell them.

Not long ago one big company developed a series of films intended to enhance the economic education of its employees. It was designed to show people how their company operated, what its philosophy was, and how it fitted into the general economy. After this set of films was shown to people throughout the organization, I was talking with one of the executives about the problem of evaluating its effect. I was interested to find that the executive was not planning any "before and after" measure of attitude. Instead, he was trying to develop a method that his firm could use to indicate whether, as a result of seeing and discussing the film, people would take more variables into account as they considered the complex problems of our economy. You don't talk as that executive did unless you have a pretty high level of confidence in the common sense and intellectual ability of the average person. He was saying, in effect: "People are bright enough, smart enough, and sensible enough so that they are likely to arrive at wise answers if they only recognize how many vari-

ables there are. I don't argue that they ought to arrive at the same answers I do."

This development — this thread of a growing confidence in people and their potentialities — has not been a logical, planned result of management action. It is emerging out of trial-and-error experience in dealing with people. As a result, instead of defining management as the direction and control of the elements of production — machines, money, processes (and, incidentally, people) — we are defining it today as the conservation, the development, and the utilization of the human resources of industry. The emphasis is on people as a resource.

The third and last thread in the picture that I want to talk about today is that of management's self-confidence in itself. The dominant characteristic of top management in our society 40 years ago was probably arrogance. The executives were on top of the heap, and they knew it.

During the thirties, management came under severe attack from many quarters, and became understandably insecure and defensive. But today, it seems to me, management has begun to achieve a genuine self-confidence. Executives display the kind of confidence characteristic of a respected profession, including a concern for ethics, and genuine humility.

Perhaps some of you have seen Adolf Berle's new book on the American capitalist.* It is the second one he has written in which he has pointed to the power that big corporations have in our economy. However, there is an interesting change in his point of view in this book as compared to the one he

* Adolf A. Berle, *20th Century Capitalist Revolution* (New York: Harcourt Brace and Company, 1954).

wrote a few years back. The change is simply that he can see very little evidence that the managements of our big corporations have exercised their power in ways detrimental to society. They have exercised self-restraint. This is a facet of the self-confidence that is making management a real profession today.

There are two or three other symptoms of management's emerging self-confidence which deserve mention. First, I would mention management's growing willingness to exercise authority in the real sense of that term, with readiness to accept the consequences.

During the depression and post-depression days, when management was facing the tremendous problems of militant unionism, there was a swing away from an authoritarian concept of authority to what almost amounted to anarchy. In many instances, management simply abdicated. We have come back to a balanced middle position in which management is willing to make decisions, to absorb the uncertainties which go into making them, and to accept the inevitable hostility that goes with the exercise of authority. No important decision pleases all.

Incidentally, the personal pattern of adjustment to authority turns up frequently as significant in the research on leadership behavior. The adjustment pattern involves authority in several directions. First, how does the individual deal with authority above him? Is he too submissive to it or, on the other hand, is he too resentful of it? Can he live with it in a comfortable fashion? Second, how does he handle his own authority? Does he grab it too quickly; does he exercise it like the new "cop" on the beat? Or, on the other hand, does he try to avoid it? Does he try to evade consequences of exercising authority? Or does he accept the more difficult position of living with the responsibility, the anxiety, and the consequences of his actions and decisions?

The second symptom of management's developing self-confidence is the acceptance of the fact that conflict and disagreement in human organizations

are inevitable. We have gone through a long period of searching for sweetness and light. We have hoped for that blessed state in which everyone will agree with everybody, everyone will love everybody, and no one will quarrel with anybody about anything. The simple fact is that if we had organizations like that, they would be completely "dead on their feet."

It is only in those organizations where people disagree, where new ideas can come up and be knocked down and be fought about, where people can differ sharply and sincerely about important issues, that we find growth and development and vitality. To seek for peace as a condition of health is basically nonsense.

I have recently talked with a management concerned with the problems created by a rigid policy of promotion from within. This group was raising such questions as these: Are we getting enough new blood into the organization? Are we permitting the capable person — who happens to be a "porcupine" — to grow, to develop, and to climb in the organization? If we create a mold in which we all think alike, in which everyone agrees all the time, are we going to be able to meet the kind of problems that will surely face us a little farther down the road?

One more evidence of management's self-confidence is the fact that the line manager is coming to accept full responsibility for human relations and for personnel administration. For a long time there was a consistent attempt to get rid of this type of responsibility. In fact, part of the impetus to the development of the field of personnel administration was an attempt of line management to slough off the responsibility of dealing with people.

Management was not too busy: it simply wanted to avoid difficult, complex, and sometimes frightening problems. We know now that we can't operate an organization successfully by neglecting problems in human relations. The staff has its function — and

(Continued on page 306)

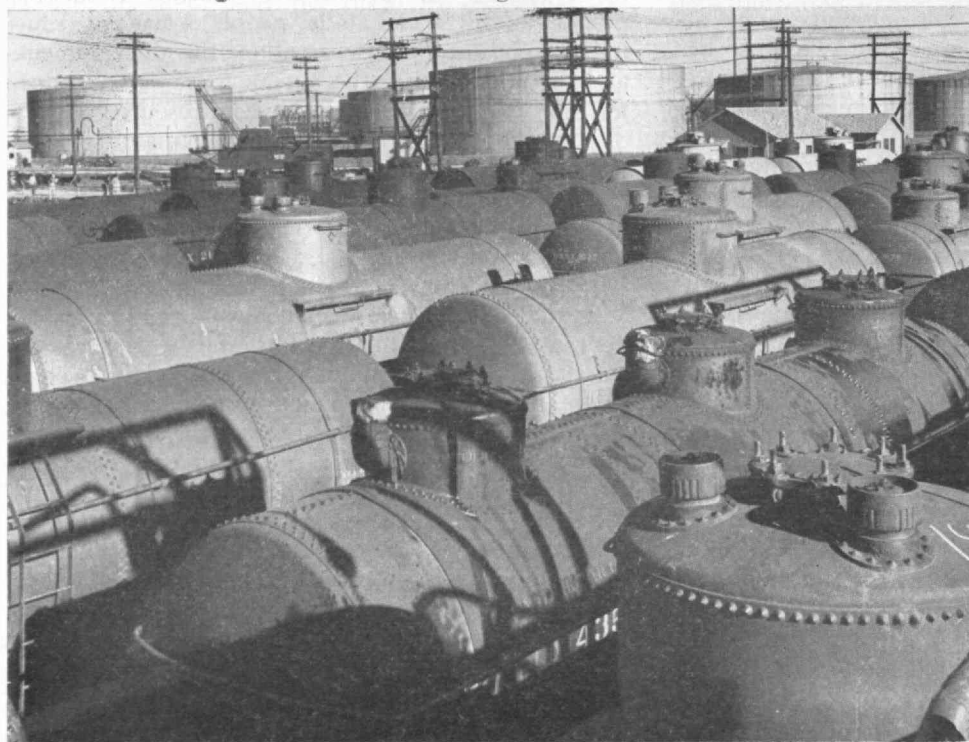


Photo by Corsini
from Standard Oil Company (N. J.)

Great Famines of the Past

*Man's Ingenuity and Efficiency May Overcome Starvation,
Putting an End to the Frightful Adversities That
Blighted Europe and Asia in Times Past*

By JAMES A. TOBEY

WAR, Famine, Pestilence, and Death; these are the Four Horsemen of the Apocalypse. With "breastplates of fire and jacinth and brimstone," they have ridden together down through the ages. In the somewhat fantastic prophesies of the Revelation, conquest was mounted on a great white horse, famine on a black horse, and disease on a red horse, while death inevitably followed on a pale horse.

The fearful four horsemen rode jauntily, mockingly, when the first colonists came to the Americas. A year after the conquest of all Mexico by a little band of Spanish adventurers under Cortes, a terrible epidemic of smallpox swept across the land, claiming as its victims millions of the susceptible Indians. This scourge, previously unknown in the New World, was brought in 1520 by a Negro slave in the train of Narváez, who came to compel stout Cortes to renounce his command, but failed in the attempt. A similar experience with pestilence occurred a few years later in Peru, and was to be repeated many times thereafter.

Famine, disease, and hostile Indians were responsible for the failures of the first English endeavors to colonize in North America. In 1585 Sir Walter Raleigh enthusiastically sent 108 settlers to Roanoke Island in what is now North Carolina, but a year later all the survivors of this discouraged group returned to England, only a few days before relief arrived. A second company of 121 persons was dispatched by Raleigh to Roanoke in 1587, but this colony disappeared without a trace.

The Virginia colony, established at Jamestown in 1607, was ravaged by starvation and disease, and barely survived through the valiant efforts of the leader, Captain John Smith. In 17 years 5,649 colonists came to Virginia, but in 1624 only about 1,100 remained. Some had, of course, become discouraged and had returned to the homeland, but many had succumbed to privation and disease, or had been killed by the Indians.

The members of the Plymouth colony, founded in 1620 by the Pilgrims, suffered a similar fate. During that first terrible winter in the bleak New England climate, more than one-half of the 101 original settlers were secretly buried in the hills, victims of malnutrition and other maladies. These Pilgrim Fathers were made of stern stuff, however; despite all disasters the colony endured and eventually pros-

pered. The survival of the English in America was, moreover, undoubtedly aided by the fact that a consistent scarcity of food always had tended to keep down the Indian population.

Since those early days the United States never has known famine in the true sense of the word — an extreme and general scarcity of food causing disaster among large sections of the population. To be sure, there have been numerous instances of undernutrition and even of starvation in local areas, and in 1930 a situation approaching famine occurred in certain farming sections, but this country has been spared the type of famine which has devastated other parts of the world. Some of the great famines of the past have taken their toll in the millions.

In the annals of recorded history there have been at least 500 famines of such magnitude and of such fearful mortality as to impress and startle the chroniclers. In North China, for example, a three-year famine from 1876-1879 is said to have caused 9,000,000 deaths, while a series of famines, from 1860 to 1900, in India, where famine has been called "only the exceptional aggravation of the normal misery," are alleged to have been responsible for 15,000,000 deaths. In England alone, more than 200 notable famines have been experienced since the beginning of the Christian Era, and these are but a small fraction of all that have occurred in Europe over the course of the centuries.

The first widespread famine that we know anything about took place nearly 5,000 years ago during the Third Dynasty in Egypt. The story of it is carved on a stele of granite on the Island of Sahal in the first cataract of the Nile, and is attributed to King Zoser, of Tosorthros, who reigned over Egypt about 2900 B.C. The monarch laments for the vast misfortune visited upon his country, saying that the Nile flood has not come for seven years. "Light is the grain," he says, "there is lack of crops and all kinds of food. Each man has become a thief to his neighbor. . . . Torn open are the chests of provisions, but instead of contents there is air. Everything is exhausted."

About a thousand years later, when Joseph came to Egypt and gained the favor of the Hyksos king by interpreting a dream, famine again stalked the land. As chief administrator for the pharaoh, Joseph prepared for another seven lean years, a dearth which drove his father, Jacob, and his 10 brothers

out of Canaan into the valley of the Nile in search of sustenance. The narrative is told, better than I can tell it, in the Book of Genesis (Chapters 41-46). The Bible mentions 10 noteworthy famines, which were usually attributed to the wrath of God (II Samuel XXI). One of these was the 10-year famine which sent Naomi out of the land of Judah to the country of the Moabites, and evoked the eloquent plea of Ruth, "Entreat me not to leave thee." In another of these Biblical famines, the siege of Samaria by the King of Syria, occurred the first recorded instance of cannibalism. As told in the Second Book of Kings, a woman complained bitterly to the King of Israel that she had bargained with another woman to boil and eat their sons, but that the other woman had hidden her son after partaking of the petitioner's. During the severe famines of the Middle Ages cannibalism often flourished, and was not punished.

The glory that was Greece and the grandeur that was Rome were frequently dimmed by disastrous periods of famine, usually coupled with war and pestilence, with the pale horseman hovering near. Among the worst of these was a series of famines which began in Italy in 460 B.C. and extended over 20 years. Then came the sack of Rome by the Gauls in 390 B.C. The barbarians took the city, but failed to capture the Capitol, which they besieged for seven months. Starvation was about to force the brave garrison to capitulate when for some inexplicable reason the Gauls suddenly folded their tents and disappeared from the scene. Perhaps they, too, were hungry.

Rome at the zenith of its power under Augustus, immediately preceding the Christian Era, seldom was visited by famine. So great was the extent of the Roman domains, so powerful the fleets of ships, and so potent the administrative system, that dearth in one section of the empire was promptly alleviated by the dispatch of grain from other areas. Most famines have been due, in fact, to absence or failure of effective methods for the distribution of food, as well as to such conditions as drought, floods and inundations, prolonged winters or summers, frost, and hail. Other factors which have promoted famines include war, epidemics, insect and rodent pests, deforestation, and failure of a single food crop, such as rice, corn, wheat, or potatoes, upon which an entire nation depends for sustenance. A plague of locusts can ruin a food supply in a matter of hours.

Thus, Nature and Man have been and are both responsible for great famines. During the reign of Trajan, Rome came to the relief of her Egyptian colony when the Nile was low once again, but in the decade from 79 to 88 A.D. drought and famine prevailed and were accompanied by the violent volcanic eruptions and earthquakes which buried Pompeii and Herculaneum at the foot of Mount Vesuvius. In these years the blights of famine and pestilence fell upon Africa and Syria, the granaries of the Roman Empire; with resulting privation throughout the civilized world.

The Norman conquest of England, dating from the day when William the Conqueror defeated Harold at the Battle of Hastings in 1066, was followed by widespread famine and pestilence. It was not the first

of such disasters in Britain, for there had been a terrible famine from 1005 to 1016, but in 1069 the scarcity of food was so great that the people consumed dogs, cats, horses, rats, and other animals, and cannibalism was said to have been rife among the hungry and destitute. Suffering continued unabated for many years during the reigns of William Rufus and Henry, and it became even more acute in the time of the crusading Richard Coeur de Lion (1157-1199). Another severe famine occurred in 1235, when 20,000 persons are reported to have succumbed to starvation in London alone.

Then came the terrible Black Death, the pandemic of bubonic plague, in the middle of the Fourteenth Century, which was preceded by, accompanied by, and followed by extensive famines. This tremendous epidemic came out of Asia to Venice in 1347, and swept across Europe like an unquenchable fire, taking a toll that has been variously estimated at one-quarter to one-half of the entire population of that continent. The only human destruction comparable to this in the whole of history was the pandemic of influenza in 1918-1919.

In the closing years of the unusually long reign of Louis XIV in France, from 1643 to 1715, famine and starvation were rife among the poorer subjects of this extravagant monarch who is so often called, or perhaps miscalled, "The Magnificent." It is said that three-fourths of the people lived on a few handfuls of barley and oats, and that death and emigration so reduced the population that every seventh house was empty. One of the king's current favorites, Madame de Maintenon, was accused of profiteering in the sale of grain and was mobbed by a hungry horde when she drove out of the gates of Versailles. A century or so later, famine was one of the factors that led to the frenzy of the French Revolution. Another notorious period of starvation in France occurred during the siege of Paris in the Franco-Prussian War of 1870-1871.

One of the significant famines of recent times was that which took place in Ireland in 1845-1846 as the result of the failure of the potato crop. A blight had struck the potatoes of Ireland in 1822, but the disaster of a quarter of a century later was even worse. About a quarter of a million persons are reported to have died of starvation and disease engendered by it during this period, and another million and a half emigrated to other lands, including the United States. About this same time, in 1848, there was a severe famine in Germany, which also stimulated emigration to the American land of plenty. The "hungry forties" helped to inspire the invidious communist manifesto of Karl Marx (1847).

Frightful as were these many adversities in Europe, they seem puny compared to some of the truly enormous famines in Asia in the past. Ten million persons are said to have died of starvation in India when the monsoons failed in 1769-1770, and there were other periods of famine amounting to catastrophe in 1780 and 1790. China is reported to have experienced about 1,800 famines in the past 2,000 years, of which several hundred have been on a really grand scale. The Russian peasant likewise has

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THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

J. M. Faulkner Becomes Medical Director

JAMES M. FAULKNER, Dean of the Boston University School of Medicine, has been appointed medical director of the Institute, effective next July. In announcing the appointment, James R. Kilian, Jr., '26, President, said:

"We are fortunate in obtaining the benefit of the broad background and medical experience of Dr. Faulkner as Medical Director at M.I.T. In his new post he will have administrative responsibility for providing comprehensive medical services for a community of approximately 12,000 students, faculty, and employees."

Dr. Faulkner is a native of Keene, N.H., where he was born on December 16, 1898. He was graduated from Harvard College with the degree of bachelor of arts in 1920 and received his medical degree from the Harvard Medical School four years later. From 1926-1927 he was assistant in medicine at Johns Hopkins Medical School, and from 1928-1940 he was, first, an assistant in medicine, and later, an instructor in medicine at the Harvard Medical School. It was in 1940 that he was appointed assistant professor of medicine in the Boston University School of Medicine, and three years later became professor of medicine in the Tufts College Medical School. In 1947 he returned to the Boston University School of Medicine as Dean and Professor of Clinical Medicine.



M.I.T. Photo

Dr. James M. Faulkner

... who becomes Medical Director at M.I.T. on July 1, 1955

Alumni Association Names Corporation Term Members

PHOTOGRAPHED below are the three nominees for alumni term membership on the M.I.T. Corporation—mentioned in the Institute Gazette section item "Democracy in Action" in the March issue of The Review (page 246). Effective with the fiscal year of the Alumni Association which begins on July 1, 1955, the following will serve for five years:

Hugh S. Ferguson, '23, XV, President of Dewey and Almy Chemical Company, Division of W. R.

Grace and Company, Cambridge (and this year's president of the Alumni Association); Fred C. Koch, '22, X-B, President, Wood River Oil and Refining Company, Inc., Wichita, Kansas; and Max L. Waterman, '13, II, Vice-president, and Director, Singer Manufacturing Company, New York City. Messrs. Ferguson, Koch, and Waterman have held important posts in industry, and maintained an active interest in the Alumni Association and the Institute.



Kampper, Belmont

Hugh S. Ferguson, '23, XV

President, Dewey and Almy Chemical Company (Grace Division), Cambridge



Math. Borniger

Fred C. Koch, '22, X-B

President, Wood River Oil and Refining Company, Inc., Wichita



Pach Bros., N.Y.

Max L. Waterman, '13, II

Vice-president and Director, Singer Manufacturing Company, New York City



Thompson Photography

Head table guests at the Dallas Conference included (left to right): Bernardo Elosua, '23, H. E. Lobdell, '17, Mrs. Edward O. Vetter, John G. Trump, '33, Mrs. Dayton H. Clewell, Walter G. Whitman, '17, E. L. DeGolyer, Mr. Green, and President Killian.

Eisenhower Appoints Killian

PRESIDENT Eisenhower has appointed James R. Killian, Jr., '26, a member of the Committee for the White House Conference on Education. President Killian will be one of 32 persons selected to conduct a national conference on the nation's educational problems. The White House Conference on Education is part of a national plan to enlist citizen action to improve education.

The Presidential Committee will assist states and territories, when requested, in planning and holding their conferences. It will also conduct a national conference on November 28 to December 1 of this year, and prepare a report to President Eisenhower on significant and pressing educational problems.

Dr. Killian is chairman of the Army Scientific Advisory Panel. He is a member of the Executive Committee of the Association of Land Grant Colleges, the Association of American Universities, the Science Advisory Committee of the Office of Defense Mobilization, and the Board of Visitors of the U.S. Naval Academy.

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Regional Conferences

FROM reports reaching The Review's editorial office, high enthusiasm was demonstrated by the 700 Alumni and friends of M.I.T. who attended the Southwest Regional Conference in Dallas on January 29, and the 275 additional well-wishers of Technology who took part in the Third M.I.T. Midwest Conference in Cleveland on February 26. For several years the Institute's Administration and Faculty have worked in close co-operation with alumni clubs in different parts of the country in developing conferences, particularly in industrial regions, that would report on the latest progress in science and technology, as developed at M.I.T.

This year the Dallas conference, held in the Hotel Adolphus, was devoted to "Frontiers in Science and Engineering"; the Third Midwest Conference, held in Cleveland's Mid-Day Club, was given to a discussion of "The Beneficent Uses of Science." Of particular significance is the fact that in both cases, approximately half of those who attended were friends of M.I.T. who were invited by Technology Alumni. The high interest which the programs evoked was apparent in the number of questions that were asked after conclusion of each address, and the seriousness of discussion of current technological problems.

The Southwest Regional Conference, sponsored by the M.I.T. alumni clubs of southwestern United States and Mexico, offered a full day's program of intellectual stimulation, from registration at 9:00 A.M. to about 10 P.M. when James R. Killian, Jr., '26, concluded his address. A welcome to those attending was extended by Dayton H. Clewell, '33, President of the M.I.T. Club of Northern Texas. Professor Walter G. Whitman, '17, Head of the Department of Chemical Engineering, opened the conference session with an address "How Peaceful Uses of Atomic Energy May Affect Petroleum." The text of Professor Whitman's remarks appears on page 283 of this issue of The Review. The second of the morning conference papers was delivered by John G. Trump, '33, Professor of Electrical Engineering, who spoke on "Atomic Particles and Radiation - Friends of Medicine and Industry."

After luncheon, Norman B. Robbins, '37, President of the M.I.T. Club of Fort Worth, opened the after-

◀ Dr. Killian and Cecil H. Green, '23, visibly indicate the enthusiasm and good will evidenced at the Dallas Conference.



Also present in Dallas, seated at the speakers' table (left to right) were: Edward O. Vetter, '42; Robert E. Wilson, '16, Dayton H. Clewell, '33, Mrs. E. L. DeGolyer, Hugh S. Ferguson, '23, Mrs. Cecil H. Green, C. S. Draper, '26, Mrs. John G. Trump, D. M. McGregor.

Thompson Photography

noon session with introductory remarks, which were followed by the showing of a motion picture portraying the new industrial revolution which may be anticipated as a result of recent progress in automatic control equipment. The general theme of this motion picture was amplified by Professor C. Stark Draper, '26, Head of the Department of Aeronautical Engineering, who opened the afternoon conference discussions with an address on "Built-in Brains for Man-Made Birds." The second conference paper of the afternoon was "The Changing Role of Management" by Douglas McGregor, Professor of Industrial Management, text of which is on page 287.

Toastmaster for the evening banquet was Edward O. Vetter, '42, conference chairman, who introduced the two speakers of the evening and brought the day's events to a successful conclusion. Robert E. Wilson, '16, chairman of the Board of the Standard Oil Company (Indiana) and a member of the M.I.T. Corporation, spoke on "Maintaining the Pace of Scientific and Technological Development."

President Killian gave the final address of the evening. His talk, entitled "Making the Most of Our Human Resources," emphasized the important role which colleges and universities play in the nation's development. Viewed as opportunities for extraordinary service—for which the institutions of higher learning must make adequate preparations immediately—was the growing number of students who might be expected to double college enrollment by 1970. Although Dr. Killian's remarks were drawn primarily from experience at M.I.T., he discussed the broader problem of higher education on a national scale.

Sponsored by the M.I.T. Association of Cleveland, the Third Midwest Conference on February 26 also provided a full day's fare of thought-provoking discussions on the beneficent uses of science. The morning session was opened by William H. Robinson, Jr., '24, who, as President of the M.I.T. Association of Cleveland, presided at the morning session. Manson Benedict, '32, Professor of Nuclear Energy in the Department of Chemical Engineering, spoke on "Harnessing the Neutron for the Research Laboratory."

John E. Arnold, '40, Associate Professor of Mechanical Engineering, spoke on "Creative Engineering and Product Design." He outlined the growth of creative thinking, both in industry and in educational fields.

The afternoon session was presided over by William C. Sessions, '26, chairman of the Conference Committee. Professor Gordon S. Brown, '31, Head of the Department of Electrical Engineering, presented the first afternoon conference paper entitled "Automation—It Touches All of Us."

The second, and final, speaker at the afternoon session was John G. Trump, '33, Professor of Electrical Engineering. In speaking on "The Beneficent Particles—Electrons," Dr. Trump reviewed and illustrated some of the exciting medical and industrial advances which are being developed.

Paul W. Litchfield, '96, chairman of the Board of the Goodyear Tire and Rubber Company, a distinguished Alumnus of the Institute, and President of the Alumni Association in 1929–1930, was honored at the banquet in a presentation made by Mr. Robinson, toastmaster. On behalf of the Alumni Association, Mr. Litchfield was presented with a set of commemorative bone china plates, and a certificate of appreciation from the Alumni Association.

Following Mr. Litchfield's response to the presentation, Richard S. Morse, '33, President of the National Research Corporation, spoke on "This Business of Research."

President Killian had been scheduled to make the address, "Bringing the Institute to You," as the concluding event of the banquet, but was prevented from leaving Cambridge because of illness in his family. John E. Burchard, '23, Dean of the School of Humanities and Social Studies, attended the Midwest Conference in Dr. Killian's stead, and delivered the message which M.I.T.'s Head had prepared especially for this occasion. President Killian's message called for an increase in the quality of higher education in the United States. A key point in any program aimed to accomplish this end is the need to strengthen science education in the secondary schools, for the universities can but build on the human material coming from the high schools. The problem is made difficult, in President Killian's view, by the need to double the size of the nation's educational system in the next 15 years or so.

That the two 1955 Regional Conferences were stimulating was never questioned by any who attended either the Dallas or the Cleveland gathering. Plans are now under way to hold three Regional Conferences in different parts of the United States in 1956.

Class Reunions

The following classes are planning to hold reunions this year, and the listing given below includes the information available to date on the locations and dates for these gatherings:

- | | |
|--|---|
| <p>1890 June 13. In conjunction with Alumni Day; possibly a Class Meeting after Alumni Day Luncheon. George A. Packard, Secretary, 25 Avon Street, Wakefield.</p> <p>1891 June 11. Annual meeting and reunion. The Country Club, Brookline. Harry H. Young, President, 290 Main Street, Cambridge 42.</p> <p>1900 June 9-12. The Pines, Cotuit, Mass. Percy R. Ziegler, reunion chairman, 984 Memorial Drive, Cambridge 38.</p> <p>1905 June 10-12. 50th reunion. Belmont Hotel, West Harwich, Mass. Fred W. Goldthwait, Secretary, 274 Franklin Street, Boston 10.</p> <p>1907 June 10-12. Oyster Harbors Club, Osterville, Mass. Bryant Nichols, Secretary, 23 Leland Road, Whitinsville.</p> <p>1910 June 10-12. Chatham Bars Inn, Chatham, Mass. John B. Babcock, 3d, reunion chairman, Room 1-263, M.I.T., Cambridge 39.</p> <p>1915 June 10-12. New Coonamessett Ranch, North Falmouth, Mass. Azel W. Mack, reunion chairman, 40 St. Paul Street, Brookline 46.</p> <p>1916 June 14-15. Chatham Bars Inn, Chatham, Mass. Cocktail party, Hotel Statler, June 13, 4:45-7:00 P.M. Ralph A. Fletcher, Secretary, Box 71, West Chelmsford.</p> <p>1920 June 11-12. Sheldon House, Pine Orchard, Conn. Edward S. Farrow, reunion chairman, 343 State Street, Rochester, N. Y.</p> | <p>1921 June 13. Hotel Statler, Boston. Class meeting at 5:00 P.M. Carole A. Clarke, Secretary, 215 Linden Avenue, Glen Ridge, N. J.</p> <p>1922 June 12. Sunday afternoon, Frank Wing's Home, 53 Chiltern Road, Weston, Mass. Pre-banquet get-together at Hotel Statler, June 13. C. Yardley Chittick, Secretary, 41 Tremont Street, Boston 8.</p> <p>1925-June 10-12. June 10-Reunion Headquarters, Hotel Continental, 29 Garden Street, Cambridge. June 11-symposium and lunch with Class of 1930; banquet in evening at Faculty Club. June 12-outing to Castle Hill, Ipswich, Mass. F. Leroy Foster, reunion chairman, Room 5-105, M.I.T., Cambridge.</p> <p>1930 June 10-13. 25th reunion. Baker House, M.I.T., Cambridge 39. Morell Marean, reunion chairman, 21 Rocky Ledge Road, Swampscott. George P. Wadsworth, deputy chairman, Room 2-285, M.I.T.</p> <p>1935 June 11-12. Chatham Bars Inn, Chatham, Mass. Ernest E. Van Ham, reunion chairman, 391 Broadway, Somerville.</p> <p>1940 June 11-12. Snow Inn, Harwichport, Mass. Robert A. Bittenbender, reunion chairman, 287 Waban Avenue, Waban 68.</p> <p>1945 June 10-12. Hotel Curtis, Lenox, Mass. Reunion chairmen: Thomas A. Hewson, 3 Millbrook Road, Medfield; David A. Trageser, Concord Road, Wayland.</p> <p>1950 June 11-12. Treadway Inn, Coonamessett, North Falmouth, Mass. Donald R. Miller, reunion chairman, Stop and Shop, 393 D Street, South Boston 27.</p> |
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1955 Alumni Day

A CONFERENCE to be held in the morning on Alumni Day, June 13, similar to that which was held last year (entitled "The Next 10 Years") is being planned by Avery H. Stanton, '25, chairman of the 1955 Alumni Day Committee, and Donald W. Kitchin, '19, deputy chairman.

The theme of the conference will be "Uses and Economics of the Peaceful Atom." Edward L. Cochrane, '20, M.I.T.'s Vice-president for Industrial and Governmental Relations, will serve as moderator for the panel group which will participate in the morning program on Alumni Day.

The panel will include John von Neumann who has recently been appointed a commissioner of the Atomic Energy Commission. Speaking on the topic of the peaceful atom, Dr. von Neumann will discuss its "impact on the physical and chemical sciences." Another panel participant will be Dr. Shields Warren, Professor of Pathology at the New England Deaconess Hospital. Dr. Warren, who was formerly director of the Division of Biology and Medicine, Atomic Energy Commission, will discuss the atom's "impact on the life sciences." Completing the panel group, Keith Glennan, President of the Case Institute of Technology, will present his views on the atom's "impact on our economy and way of life."

A Look Ahead

THE 130 members and guests who attended the 308th meeting of the Alumni Council on Monday, February 28, were treated to an unusual survey of current events taking place at the Institute. As President of the Alumni Association, Hugh S. Ferguson, '23, opened the Council meeting after dinner at the Faculty Club. Principal speakers of the evening were Professor Jerome B. Wiesner, Director of the Research Laboratory of Electronics, and James R. Killian, Jr., '26, M.I.T. President, who has recently completed an important assignment in Washington.

The major items on the business portion of the meeting have already been enumerated in the March issue of *The Review* or are treated editorially elsewhere in this section in this issue, and accordingly will be omitted as a part of this report.

As chairman of the Alumni Fund Board for the current year, Theodore T. Miller, '22, reported that 8,220 Alumni had contributed \$302,000 to the 1955 Fund as of February 28. These figures represent 25 per cent of Technology's active Alumni.

In appreciation of his successful term as President of the Alumni Association for the year 1953-1954, Mr. Ferguson then presented a gavel to Horatio L. Bond, '23.

(Continued on page 298)

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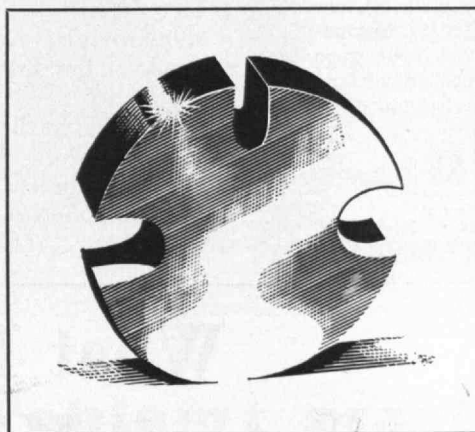
The manufacturer of this part reports a number of economies realized through the specification of the extrusion. One comes from the fact that the metal

is dense and uniform, due to the high pressure required by the extrusion process; thus it is machined quickly and perfectly, with almost no rejects. As a secondary result of this, the customer does not have to keep excess metal in stock to take care of spoiled parts, and the inventory of metal is less than would be required otherwise. Scrap due to machining is

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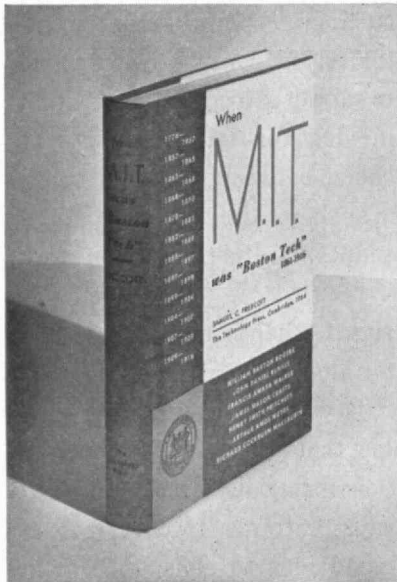
THE INSTITUTE GAZETTE

(Continued from page 296)

As Director of the Research Laboratory of Electronics, Dr. Wiesner stated that his laboratory had been established to provide a continuing research program on peacetime problems in the broad field of electronics, when the Radiation Laboratory was disbanded, upon completion of its wartime program. He discussed the basic philosophy underlying the operation and administration of the laboratory, and outlined its accomplishments in the past five years.

For a full hour President Killian informed Council members of recent developments at the Institute. The Institute faces important policies with regard to enrollment, especially in view of the increasing number of young persons who will attend college in the future. The Institute can probably accept a slightly increased number of students in a few Departments without adding significantly to its physical facilities, but there is a limit to such expansion. The high quality of M.I.T. education is attested by the fact that 10 per cent of all those receiving fellowships from the National Science Foundation elect to study at the Institute. A study made by Wesleyan University shows that M.I.T. is among the top five institutions in the number of graduates it sends into graduate work. Already 10 per cent of the undergraduate student body at Technology comes from foreign countries, and this condition is bound to

(Continued on page 300)



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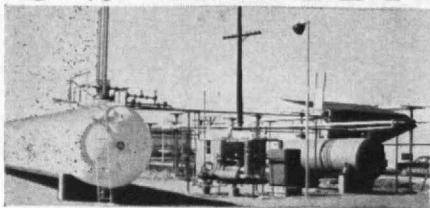
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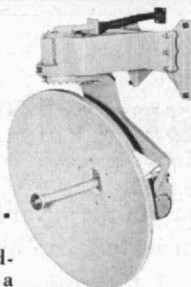
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THE INSTITUTE GAZETTE

(Continued from page 298)

affect the composition of the Alumni Association in years to come. Likewise, the number of women students continues to increase. At present there are 125 studying at the Institute, and this growing number presents problems as to whether the Institute has sufficient facilities to encourage more women students to enroll.

Along with that of other colleges and universities, the educational pattern of M.I.T. is changing to meet modern requirements. The Wesleyan study, already referred to, shows that the nation's ablest scholars tend to come from the high-cost, privately endowed institutions. The percentage of M.I.T. students who go into graduate work has been steadily increasing and now stands at about 25 per cent of the graduating class. Despite increased tuition, today's students pay only about 35 per cent of the cost of their Technology education, as compared to 45 per cent for the year 1939-1940. Another innovation of increasing importance is the growing number of scholars who come to the Institute for special or advanced study for a semester or so. Now no effective mechanism exists for affiliating them with the Association.

In a discussion of environmental factors, President Killian stated that the building program which the Institute has gone through during the past five years would meet earlier objectives with completion of the Kresge Auditorium and Chapel (to be dedicated on May 8) and the Compton Laboratories (to be begun this spring). He stressed the enthusiasm with which students had surveyed the need, and made proposals, for a student union and alumni center, but indicated the necessity of completing present commitments before these new structures could be undertaken.

Under miscellaneous items, President Killian stated that thoughts are already being given to the centennial celebration of M.I.T. to occur in 1961. Dr. Killian expressed the hope that a history of the modern M.I.T. might soon be written, and that this would emphasize the influence that M.I.T. and technical training have had on the development of the nation. He also announced that George R. Harrison, Dean of the School of Science, has accepted an assignment to write a biography of Karl T. Compton, to be published by the McGraw-Hill Book Company.

(Continued on page 302)

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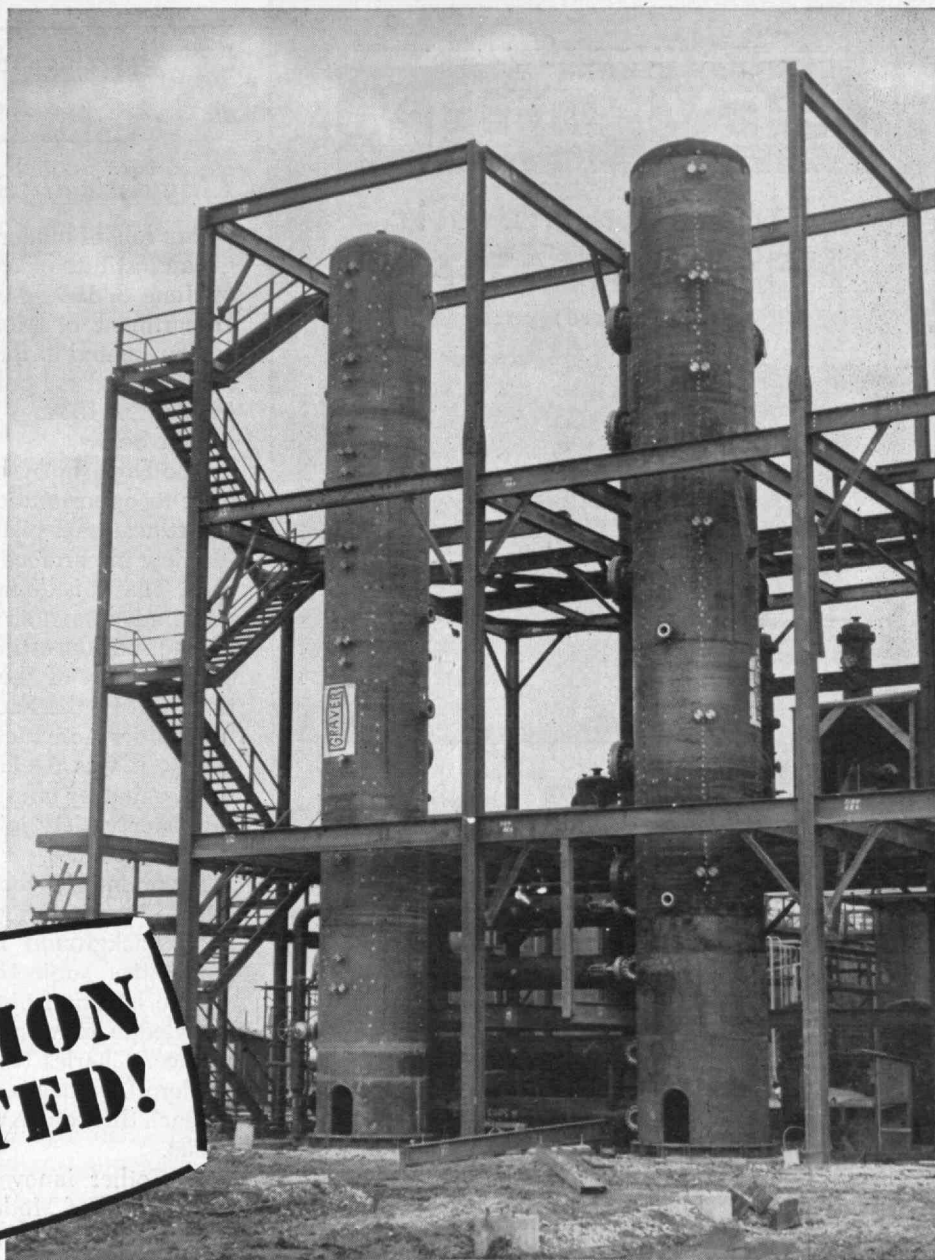
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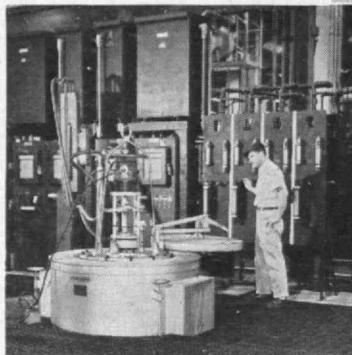
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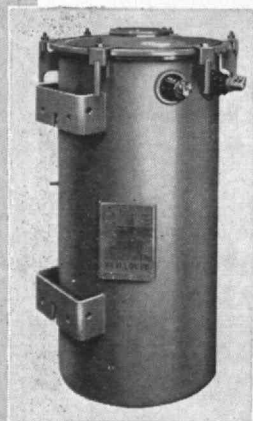
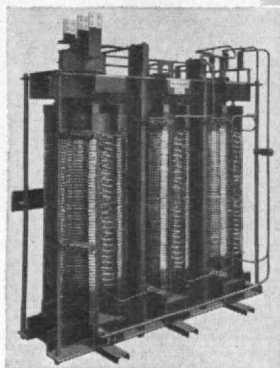


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THE INSTITUTE GAZETTE

(Continued from page 300)

Linguistically Speaking

THE role of modern languages in the curriculum of an institute of technology was carefully reviewed on June 8, 1954, by the Visiting Committee on the Department of Modern Languages* whose report was presented to the M.I.T. Corporation on June 11, and released for publication in *The Review* on September 29, 1954. A summation of the report is presented below.

The Department of Modern Languages must keep alert to opportunities to make new contributions to the educational picture of the Institute, in line with the new importance of foreign languages for Americans. That it is doing this is shown by the way it has taken advantage of two recent decisions of the Faculty to introduce timely subjects. Under the impetus of the report of the Committee on General Education of 1949, the Faculty voted enlarged scope of the humanities activities at the Institute, and more recently, it was decided to lighten the load of freshmen so that by offering a number of elective subjects, a greater variety might be introduced into the first-year program.

Beginning in the fall of 1953, the Department offered, to entering students having an unusually good background in French, opportunity to take humanities subjects in French, thus achieving a double benefit from putting their foreign language knowledge to work in the required humanities sequence. Charles W. Rosen, Assistant Professor of Modern Languages, was brought to M.I.T. especially to teach this course which has elicited favorable comments.

The other innovation in subjects offered by the Department of Modern Languages in 1953-1954 was the addition of two freshmen electives—one in

*Members of this Committee for 1953-1954 were: Rudolf F. Haffenreffer, '95, chairman (deceased), James M. Barker, '07, Antonio H. Rodriguez, '21, Jean M. Raymond, '34, John J. Desmond, Jr., Elton Hocking, W. Freeman Twaddell, and Father E. A. Walsh, S. J.

Members of this Committee for 1954-1955 are: John J. Desmond, Jr., chairman, B. Edwin Hutchinson, '09, Antonio H. Rodriguez, '21, Horatio L. Bond, '23, Jean M. Raymond, '34, Franklin S. Cooper, '36, Elton Hocking, and W. Freeman Twaddell.

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Spoken German and the other in Spoken French — to provide students with an opportunity to speak a language they had studied for several years in high school. The availability of elective time in the freshman year provided opportunity to offer such courses. Entering students with three or more years of German or French are now offered two semesters of spoken language training. Emphasis is on pronunciation and the patterns of conversation.

Spanish was dropped from the curriculum last year because falling enrollments made it seem uneconomical to continue to offer it for the present. A pronounced upturn in the other three languages is accounted for only by the addition of new language subjects and probably also by a new emphasis on oral work in elementary subjects.

Over the last few decades, language requirements have been gradually reduced at the Institute as well as elsewhere in the country, a tendency which the Committee feels is most unfortunate. In establishing requirements for admission to M.I.T., the Committee feels that greater consideration should be given to some preliminary training in foreign languages. Thus, further language study at the Institute would be complementary and on a more advanced cultural level than has been possible in the past.

The requirement that all doctoral candidates must show that they have a reading knowledge in two modern languages sufficient to read technical material in their field results in sizable enrollments in specialized language subjects. Graduate students in one semester achieve a minimum skill in getting the correct meaning from a scientific text. These subjects have become well known for teaching reading knowledge to graduate students more efficiently than any other method yet devised.

The Committee was favorably impressed with research being undertaken in the Department. Morris Halle, Assistant Professor of Modern Languages, has directed a project on speech analysis. Especially in the last year, considerable progress has been made and instruments have been developed which discriminate between certain classes of English sounds on the basis of physical measurements. Another active project is that of translating from one language to another by means of automatic equipment, using modern computers with large-scale storage. A new journal, entitled *Mechanical Translation*, has been initiated at M.I.T. by Professor William N. Locke, Head of the Department of Modern Languages,

(Continued on page 304)



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THE INSTITUTE GAZETTE (Continued from page 303)

and Victor H. Yngve, research associate in the Research Laboratory of Electronics and assistant professor of Modern Languages.

The Committee feels that the Department of Modern Languages shows, by the vigor of its new programs in teaching and in research, that it is alert and forward-looking, and that the Department's program should receive continued encouragement.

Technology and the Humanities

THE Visiting Committee on the Department of Humanities* met in the Hayden Library Lounge at Cambridge and at the Algonquin Club in Boston on February 27, 1954. A report of the meeting was released for publication in The Review on September 29, and a condensation is presented in the following paragraphs.

All eight members of the Committee were present. Also in attendance, representing the Institute's Administration, were: James R. Killian, Jr., '26, President; John E. Burchard, '23, Dean of the School of Humanities and Social Studies; George R. Harrison, Dean of the School of Science; and Julius A. Stratton, '23, Provost. Professor Howard R. Bartlett, Head of the Department of Humanities, together with John M. Blum and Edward N. Hartley, Associate Professors of History, represented the Department throughout the day. A considerable number of senior department faculty members joined the group for luncheon at the Faculty Club, and the administrative officers and department representatives joined the Committee for dinner and evening discussion at the Algonquin Club.

The Committee took part with great interest in the discussions regarding the proposed Course XXI. Its members are unanimous in feeling that the development of this course is a natural and desirable evolution for M.I.T. The evidence is that M.I.T. graduates in very substantial numbers move out of the engineering and scientific fields and into the broader responsibilities of administrative work. This has been

* Members of this Committee for 1953-1954 were: James M. Barker, '07, chairman, Raymond C. Rundlett, '22, Andrew P. Kellogg, '24, Jacques Barzun, Alan W. Brown, John J. Desmond, Jr., Theodore P. Ferris, and Thomas C. Mendenhall.

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going on for many years. At present, however, it appears that the Institute may not be attracting enough top-grade candidates of the category who want a broad grounding in engineering or science, but whose major interest is in the direction of administration. Such men recognize the importance of a sound engineering or scientific foundation, but may feel that M.I.T. offers this with a greater degree of specialization than they feel is necessary for them. As a result, they may be lost to M.I.T. in favor of other institutions which offer what the candidate thinks of as a less specialized, and hence broader preparation for life.

At the present time the Institute offers the curriculum of Course XIV, Economics and Engineering, to the candidates who wish to concentrate in economics. This is working successfully, and should continue to follow its present policy. The proposed Course XXI is designed to appeal to candidates who do not want to concentrate on engineering, science, or economics, but who recognize the importance of thorough grounding in these fields as preparation for careers involving broad social and industrial responsibilities.

The Committee wishes to make its recommendations specific in this matter of Course XXI by quoting with its approval the recommendations contained in a report on this subject to the M.I.T. Faculty Committee on Undergraduate Policy dated December 31, 1953. This report was made by an *ad hoc* committee with a membership drawn from the faculties of the School of Humanities and Social Studies, the School of Science, the School of Engineering, and from the Institute Administration, with Dean Burchard as chairman. These recommendations follow:

"I. (that) A four-year course of study be initiated at M.I.T. leading to a degree of S.B. without specification of science or engineering department. The curriculum of these four years shall consist of approximately 60 per cent basic science and engineering, 40 per cent humanities and social studies. Students concentrating in humanities would receive a degree in Course XXI; those concentrating in social sciences a degree in a modified and expanded Course XIV.

"II. (that) The curriculum in science or engineering be designed to permit a degree of S.B. with specification of a professional department on completion of a fifth year or a degree of M.S. on completion of a sixth year.

(Concluded on page 306)



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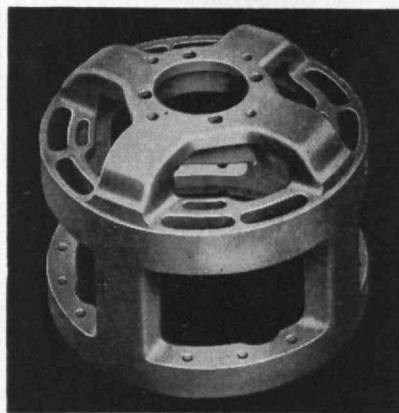
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THE INSTITUTE GAZETTE

(Concluded from page 304)

"III. (that) To prevent indiscriminate sampling of subjects in humanities or social sciences, each student in the program be required to master a solid core of subjects comparable in both quantity and depth to that carried by a liberal arts major.

"IV. (that) The supervision of the new four-year S.B. degree be primarily the responsibility of the School of Humanities and Social Studies with departmental responsibility resting with the department in which the core of subjects is offered. Students undertaking the fifth year for a degree with specification should, of course, be under the jurisdiction of the appropriate department of science or engineering.

"V. (that) Faculty action at this time be permissive and that the exact date of initiating Course XXI be left to the discretion of the Administration."

CHANGING ROLE OF MANAGEMENT

(Continued from page 290)

it is an important one — but it is not its function to be solely responsible for dealing with people.

Let me summarize. I have talked about three significant threads in the fabric of our industrial life which seem to be emerging as a pattern. These threads are all elements of basic attitude and philosophy on the part of management. The first is the belief that the willing collaboration of people is the only sound way to achieve the objectives of a free enterprise system. The second is the growing confidence in the abilities and the potentialities of the ordinary man. The third is the emerging genuine self-confidence that includes a good measure of humility and a genuine social conscience.

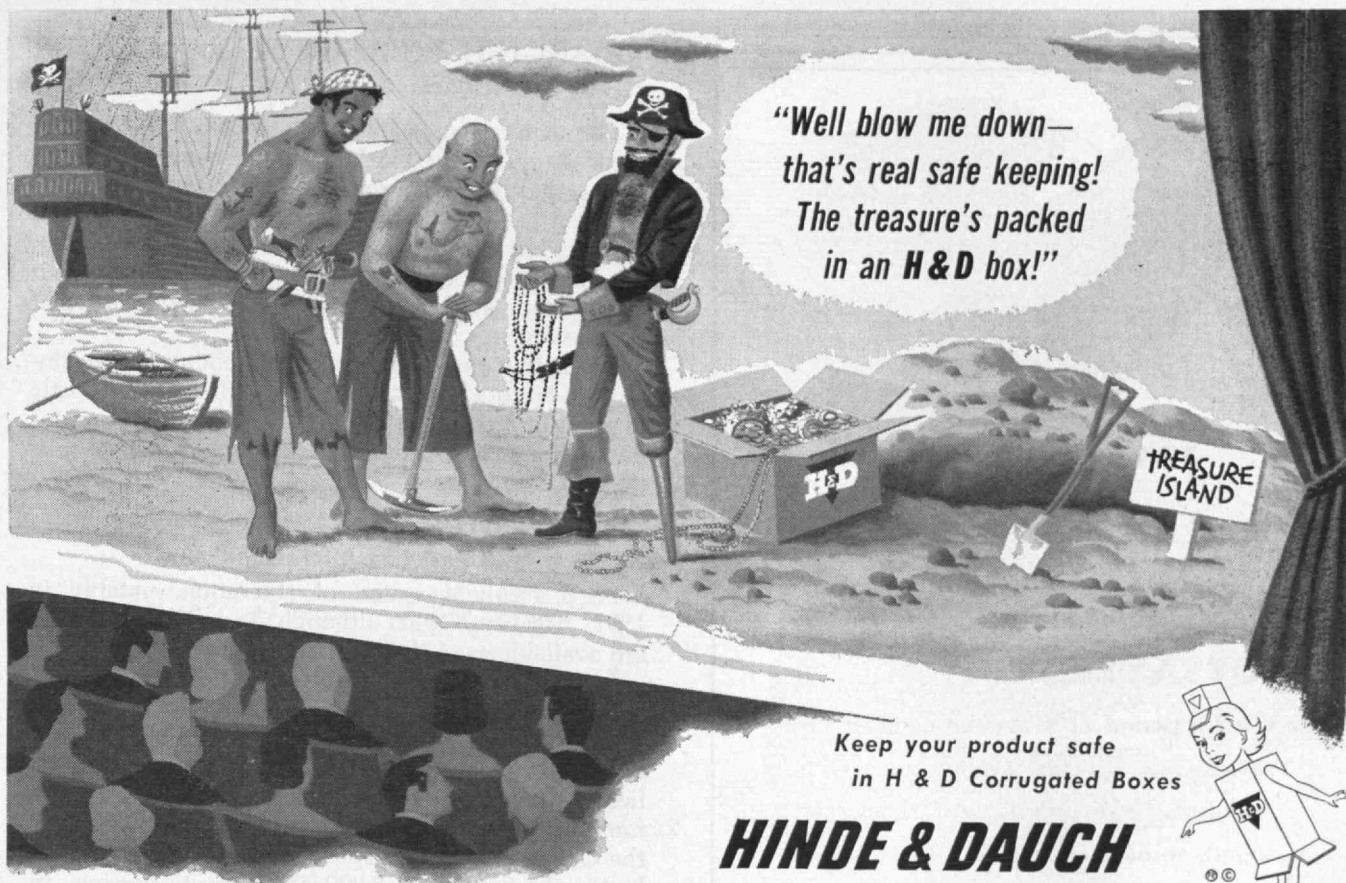
These attitudes are not, of course, characteristic of all managements, nor of all individuals within any given management. The three points of view, as are summarized above, get built into a system only gradually, but I think they are beginning to have a profound importance in our free enterprise system. Over the next 15 or 20 years we will see unsuspected new developments resulting from these changes in management philosophy.

(Concluded on page 308)

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CHANGING ROLE OF MANAGEMENT

(Concluded from page 306)

For many years Clinton S. Golden — one of the great statesmen in the labor movement — has been saying that, by and large and in the long run, management gets the kind of labor relations it deserves. I think one can extend his statement and say that, by and large and in the long run, management also gets the kind of organizational effectiveness that it deserves.

I feel that management in this country is beginning to build a new, a healthier, and a more realistic relationship with the people who comprise our industrial organizations. As you can see, I am optimistic for the future.

GREAT FAMINES

(Continued from page 292)

been a frequent victim of starvation, notably in 1891, 1906, and 1911, although no reliable statistics are available as to the resulting mortality.

In view of the present bitter hostility of the Russian and Chinese communist regimes to everything American, it is interesting to note that our country has been most generous in the past in providing relief to these nations. When China was afflicted with famine in 1920-1921, the American Red Cross and the China Relief Fund spent 37,000,000 Chinese dollars in the feeding of 8,000,000 destitute persons. In the Russian famine of 1921-1923, about \$70,000,000 was made available for relief, mostly from the United States — our government alone having appropriated \$22,662,000 for this humanitarian purpose. With these funds, some 11,000,000 persons were fed. Gratitude is, of course, not one of the characteristics of the Communists.

Famine is by no means a thing of the past. Such disasters have occurred within the last generation; in the Ukraine in 1933, for example, and undoubtedly will occur again. In the Old World, if not in the New, the growth of populations always tends to outstrip available food supplies. The United States, Canada, Australia, and some of the South American nations are fortunate in having surpluses of foods, but in most other parts of the world there are deficits and shortages. Following the devastation of World War II, food production declined drastically in Europe and Asia, but it increased in North America, so that our donations of victuals to distressed areas saved millions of persons from threatened famine.

(Concluded on page 310)

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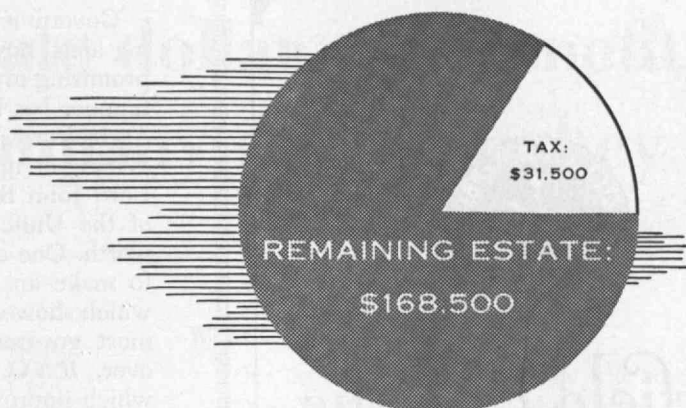
Mr. A's estate of \$200,000 paid a Federal tax of \$31,500.

Mr. B's estate of \$200,000 paid only \$4,800 in Federal taxes.

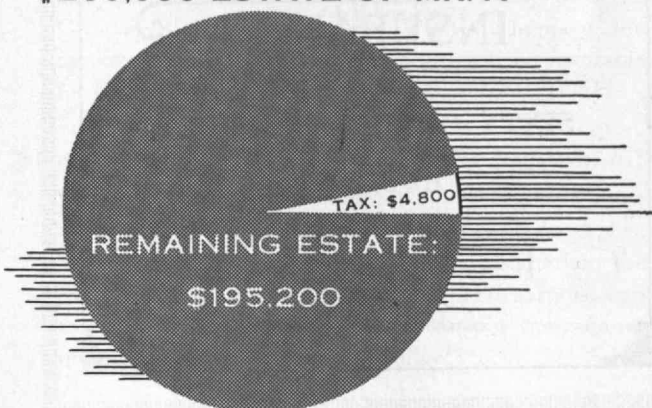
Mr. B cut the tax on his estate through planning. He took advantage of all the opportunities for cutting taxes that the law provides. Mr. A thought he was all set.

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GREAT FAMINES

(Concluded from page 308)

Governments and international agencies are becoming alert, however, to the situation. One of the most promising events in the endeavor to cope with future famines has been the establishment of the Food and Agriculture Organization of the United Nations. When set up in 1945, under the able direction of Lord John Boyd-Orr, this was the first organization of the United Nations, and it has since proved its worth. One of the first activities of this agency was to make an appraisal of the world's food position, which showed that conditions were much worse than most governments realized. More than that, however, F.A.O. has suggested ways and means by which improvements can be achieved. Although the forces of Nature often seem overpowering, it is not too much to hope that in the future the ingenuity and efficiency of man may overcome famine and hunger in most parts of the world.

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PEACEFUL USES OF ATOMIC ENERGY

(Continued from page 286)

doubtful. Looking ahead 50 years, I foresee that atomic power almost certainly will be a significant factor even in the United States.

Four years ago when I became a member of the General Advisory Committee, my attitude toward atomic power was about this: If it is not particularly needed in the United States at this time, why give it such a strong push? My attitude has changed quite completely. I now think it vital to support atomic power development with great urgency, not because the United States itself needs electricity from nuclear fission, today, but because sound public policy demands that we proceed vigorously to capitalize on the constructive potentialities of the atom.

There are many other evident uses of atomic energy, quite aside from its highly publicized application for producing electric power. Eventually its application in biology and medicine may well bring more benefits to man than even power will. In agriculture, all sorts of possibilities are being explored, such as the development of new and better strains by forced mutations and the studies of the movement of fertilizers into plants and through plants. A great deal of that which is new has been learned by studies with tagged atoms, and a good many preconceived ideas in fertilizer practice have been shown to be

false and better methods are being developed. One little story I heard, about the elimination of a pest from a tropical island, will illustrate how broad our thinking must become when uses of atomic energy become commonplace. The female of a certain pestiferous fly leaves its larva in the skins of animals but this species has the unique characteristic that the female can mate only once during life. In the island set off as a test area, a large number of male flies were sterilized by irradiation. The net result was that the next generation never was born and the fly has disappeared from that test island.

Many of you have had experience with one or another industrial uses of atomic energy. Neutron logging and gamma ray logging of wells, and the setting of radioactive markers in wells, are examples. Techniques are becoming available for "seeing" things underground and behind walls. The use of radioactive tracers provides a highly useful understanding of many kinds of physical phenomena and makes possible an intelligent attack on problems where man's eyes are blind.

I might inject here a little comment about our own work at M.I.T. where a great deal of basic scientific work is being done on nuclear energy. About three or four years ago we started a graduate course in nuclear engineering under the direction of Manson Benedict, '32, Professor of Nuclear Engineering in the Department of Chemical Engineering.

(Concluded on page 314)

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PEACEFUL USES OF ATOMIC ENERGY

(Concluded from page 312)

Those of you engaged in oil refining or in the field of petro-chemicals may know him well. We are now designing a research reactor which we think will be the best reactor at any university in the country. It will have many values as a tool for education and research. In the first place, it will be put to use in the training of nuclear engineers. But, in addition, it will have many research potentialities in varied fields, such as solid state physics, metallurgy, biology, and food technology. The Institute is living up to its responsibilities and its opportunities in the new field of nuclear science and engineering.

In closing I would like to comment briefly on the President's atoms-for-peace program. The United States proposed that an international agency be set up to disseminate information and offer help, through all the world, in the peaceful development of the atom. You probably recall that the United States volunteered to give 100 kilograms of fissionable material through this agency. The British agreed to give 20 kilograms. In addition, the United States proposed that an international conference be held for the exchange of scientific and technical information on peaceful uses of atomic energy. The General Assembly of the United Nations unanimously adopted our proposal. The Russians have agreed to participate, and the Conference will be held next August in Geneva. I feel that this agency and this conference are bold moves to get us off dead center, to awaken a spirit of co-operation among nations, and to make the atom man's servant rather than his destroyer.



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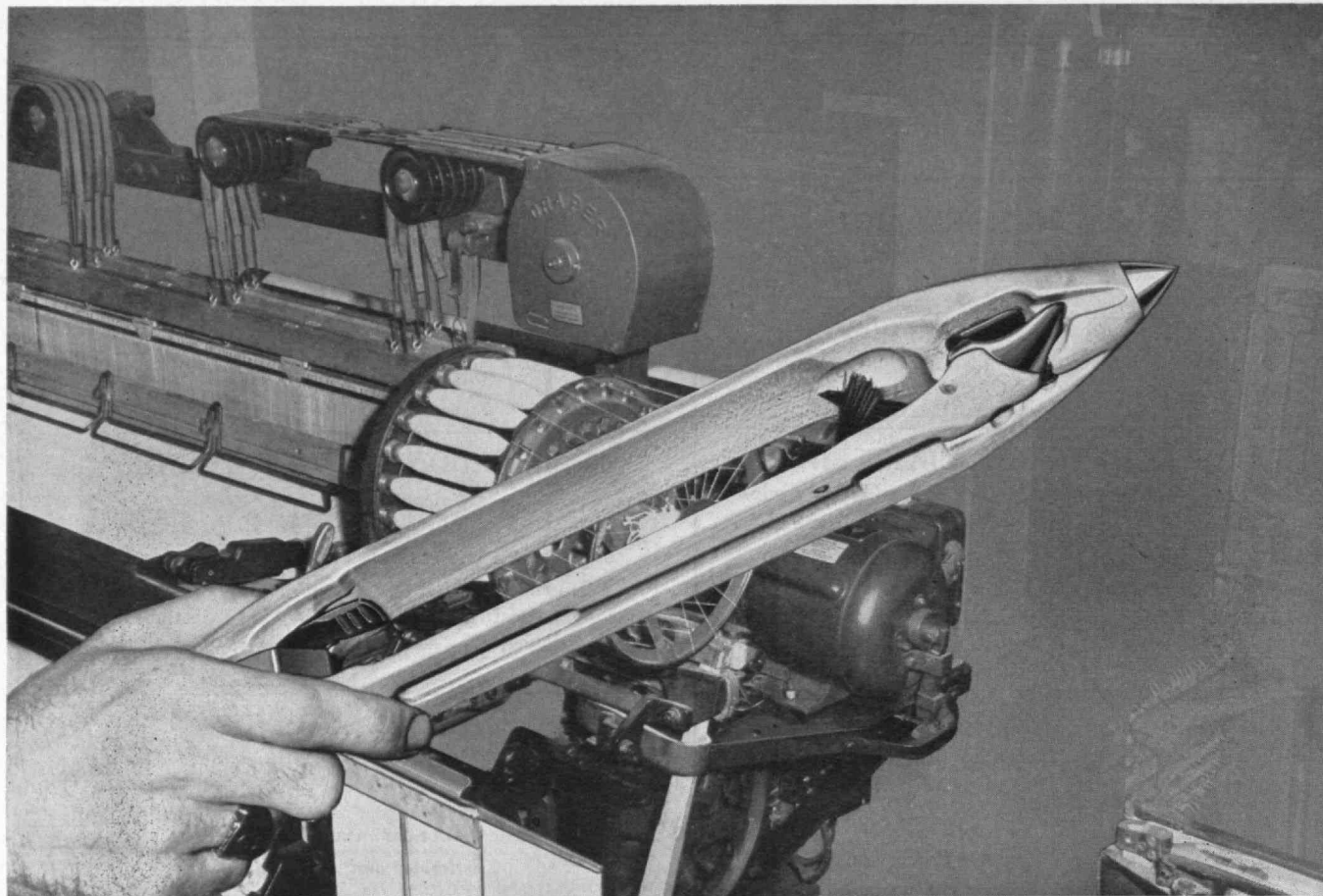
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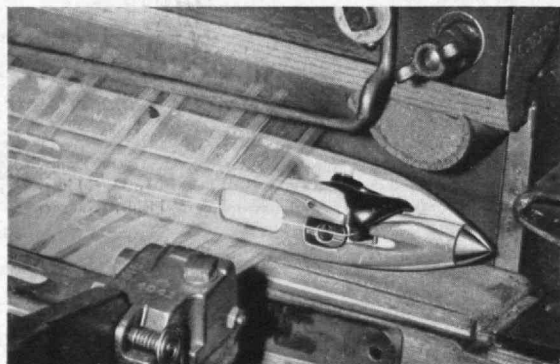
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Alumni AND Officers IN THE News

Citations for:

HARRY A. KULJIAN^{'19}, President of the Kuljian Corporation, engineers and constructors of Philadelphia. Mr. Kuljian was nominated as "Engineer of 1954" by the Philadelphia Chapter of the Pennsylvania Society of Professional Engineers and cited for outstanding engineering achievements as a consultant, designer, and engineer-builder of world-wide stature.

EDWARD LINDLEY BOWLES^{'22}, Consulting Professor of the M.I.T. School of Industrial Management, and ALBERT GORDON HILL, Professor of Physics and Director of the Lincoln Laboratory at M.I.T. Professor Bowles and Professor Hill were honored in recognition of outstanding achievements and services which have reflected honor upon Washington University, of which both are Alumni. Professor Bowles is a consulting engineer who specializes in electrical communications and the field of electronics.

JEROME NAMIAS^{'41}, Chief of the U. S. Weather Bureau's Extended Forecast Section. Mr. Namias was awarded for extraordinary scientific accomplishment in his "contribution to, and stimulation of, research in the principles and application of extended and long-range forecasting techniques," by the American Meteorological Society.

EDWARD E. DAVID, JR.,^{'47}, for "his exceptional contributions to submarine warfare and his interest in the life of his community," by Eta Kappa Nu, national honorary electrical fraternity.

Elected and Appointed

MARSHALL B. DALTON^{'15} has been named president of the board of trustees of Governor Dummer Academy, South Byfield, Mass.

WALTER G. WHITMAN^{'17}, M.I.T. Professor of Chemical Engineering, in charge of the Department, was named by Secretary General Dag Hammarskjöld to set up the first world scientific conference on atomic energy. Eighty-four governments have been invited for an exchange of information on atomic energy for peaceful purposes. The parley will take place in Switzerland in August.

CLAYTON D. GROVER^{'22}, was recently appointed president of Whitehead Metal Products, Company, Inc.

EDWARD R. HARRIS^{'25} has been elected vice-president of Mean Board Sales, Inc., Cincinnati. Mr. Harris has been with the company since 1925, following his graduation from M.I.T.

JAMES R. KILLIAN, JR.,^{'26}, President of M.I.T., has been appointed a member of the White House Conference on Education by President Eisenhower. Dr. Killian is one of 32 persons appointed to conduct a national conference on the nation's educational problems.

DUDLEY L. PARSONS^{'26}, senior partner in the Dudley L. Parsons Company, New York, has been named a vice-president of the Public Relations Society of America.

HENRY G. HOUGHTON, JR.,^{'27} Head of the Department of Meteorology at the Institute, was elected secretary of the American Meteorological Society.

RICHARD D. HOAK^{'28} has been named chairman of the American Chemical Society's division of water, sewage and sanitation chemistry for 1955.

GEORGE B. MERRYWEATHER^{'34}, has been elected chairman and secretary of the Merryweather Machinery Company.

CLIFFORD S. LORD^{'37} has been appointed chief geologist of the Geological Survey of Canada by the Civil Service Commission of Canada. In his new post, Dr. Lord will be responsible mainly for organizing and directing the field work of the Survey, a task of increasing importance in view of the rapid growth of mining in Canada.

BRUCE S. OLD^{'38}, former president of the Cambridge Corporation, contracting engineers, assumed full-time duties as vice-president of Arthur D. Little, Inc., Cambridge.

CHARLES EISLER, JR.,^{'40}, became president of the Eisler Engineering Company, Inc., Newark, N. J.

MELVIN L. JACKSON^{'40} has been appointed vice-president of C.G.S. Laboratories, Inc., Stamford, Conn.

FRANK PENN^{'40} was elected vice-president in charge of frozen food packs of the Minute Maid Corporation.

ROBERT R. SHROCK, M.I.T. Professor of Geology, will serve as vice-president of the Society of Economic Paleontologists and Mineralogists for 1955-1956.

Scientific Sessions

The following M.I.T. Alumni participated in the Military-Industrial Conference, February 10 and 11, at Chicago, Ill.: Lieutenant General LESLIE R. GROVES^{'17}, Vice-president of Remington Rand, Inc., was chairman of the morning session on February 10. ROBERT E. WILSON^{'16}, Chairman of the Board, Standard Oil Company, (Indiana), was the speaker at the afternoon session on February 10. Dr. Wilson's topic was "Our Technical Manpower Situation Today." A. A. POTTER^{'03}, Dean, Purdue University, was a member of the Panel Symposium on February 11. The panel members replied to questions on the general subject of the conference. The conference was designed to bring together people occupying positions of responsibility in our legislative, military, educational and industrial life and to direct their thinking to the utilization of especially trained manpower and skilled craftsmen in ways which will best serve the nation.

Obituary

- HERBERT G. PRATT^{'85}, January 16.
- FREDERICK H. BRAINERD^{'89}, November 29, 1954.
- GEORGE B. HAWLEY^{'92}, September 12, 1954.*
- LESLIE DANA^{'94}, January 3.
- CHARLES K. CUMMINGS^{'94}, January 18.
- JOHN TILLEY^{'96}, January 27.*
- FREDERICK M. HEERMANN^{'96}, December 9, 1954.*
- JOHN E. GILMAN^{'97}, December 15, '54.*
- JOSEPH G. COFFIN^{'98}, November 6, '54.*
- CLIFTON W. WILDER^{'98}, August 15, 1954.*
- WALTER W. BONNS^{'99}, November 8, '54.*
- GEORGE A. TWEEDY^{'00}, January 21.
- NEWELL C. PAGE^{'02}, February 15.*
- PHILIP C. PEARSON^{'02}, January 27.
- FRANK J. SEVERY^{'04}, December 20, 1954.
- PAUL N. CRITCHLOW^{'06}, January 2.
- SAMUEL S. DARGAN^{'06}, November 30, 1954.
- EDWARD B. POLLISTER^{'06}, July 28, 1954.*
- MAURICE E. DENBY^{'08}, Date unknown.
- JOHN T. TOBIN^{'08}, January 16.
- J. DAVID S. BENBOW^{'12}, October 9, 1954.*
- ANGUS R. HAMMOND^{'12}, April 13, 1954.
- PHILIP S. BARNES^{'13}, October 19, 1954.
- WALLACE S. THOMAS^{'15}, January 15.
- DONALD M. CHOATE^{'16}, December 26, 1954.*
- CARLIN F. HARRINGTON^{'16}, September 12, 1954.
- MILTON W. PETTIBONE^{'17}, January 17.*
- EVAN R. WHEELER^{'17}, November 14, 1954.*
- RAY W. HARRIS^{'18}, December 9, 1954.
- JOHN T. COSGROVE^{'19}, December 21, 1954.
- JAMES H. SMITH^{'19}, August 27, 1954.
- FRITZ BOLEY^{'20}, January 5.*
- JOHN C. WILSON^{'20}, November 12, 1954.*
- WILLIAM T. MILLER^{'22}, January 12.*
- REGINALD B. PARKHURST^{'22}, Date unknown.*
- JOHN W. COFFEY^{'23}, March 8, 1951.*
- ARTHUR S. SCHULHOFF^{'23}, 1953.
- JACOB H. JACOBSON^{'24}, November 5, 1951.*
- HOYT S. BAKER^{'25}, October, 1954.
- ARTHUR W. BAKER^{'26}, January 22.
- C. HUMPHREYS BARRY^{'26}, September 25, 1953.*
- ASA W. K. BILLINGS, JR.,^{'26}, January 25.*
- JOHN G. PRAETZ, JR.,^{'28}, February 12.
- RAMON S. DE LOS TERREROS^{'31}, Date unknown.
- VERNON G. GATTENBY^{'33}, January 31.
- FRANKLIN H. LOBDELL^{'34}, February 9.
- WILLIAM E. HARDY^{'45}, December 24, 1954.
- WILLIAM R. FRAZER, JR., 2-46, December, 1954.
- EMIL W. DELU^{'48}, Date unknown.
- ROBERT L. HARDY^{'53}, December 28, 1954.
- ROBERT G. SCHMIDT^{'53}, December 26, 1954.

*Mentioned in Class Notes.

News FROM THE Clubs AND Classes

CLUB NOTES

Baltimore

Professor Erwin H. Schell'12 honored the M.I.T. Club of Baltimore with a visit on January 27, 1955, and our President, Clinton B. Conway'24, arranged a luncheon at the Merchants Club with a number of Professor Schell's Course XV men present. In the evening, along with Mrs. Schell, he was our guest at a dinner at the Broadview and gave us a very interesting talk on "New Frontiers in Science and Engineering," which the capacity crowd thoroughly enjoyed. We regret to announce the passing last month of our beloved member Adolph Denbin '21. Our Monday luncheon group at the Engineers Club sincerely miss his regular attendance. — R. J. PETERSEN'27, *Secretary-Treasurer*, 4007 Deepwood Road, Baltimore 18, Md.

Boston Luncheon Club

Seventy-nine members and guests were on hand at the December meeting on January 20, 1955, to hear Harold C. Weber'18, Professor of Chemical Engineering, speak on "Horizons in Chemical Engineering." Professor Weber believes that chemical engineering may be regarded as having had its start around 1895.

By 1918 the country realized that there was something lacking in its chemical industry, for we discovered how dependent we had been on Europe for dyes, drugs, and much of our processing equipment when World War I cut off these sources of supply. This situation stimulated the first great period of growth in chemical engineering, which lasted from 1918 to about 1935. In the same period large industrial research laboratories were founded, our inorganic chemical industry became well established, and advances were made in many products, including alloy steels, plastics, detergents, paints, and petroleum products.

World War II taught us the value of well-organized research. Nylon and synthetic rubbers are examples of the results of this method of attack. After the war our attention was directed to the utility of the lesser known chemicals like peroxides, hydrazine, petrochemicals, the obscurer metals (for example, zirconium, titanium, and cobalt), new uses for ammonia, antibiotics and vitamins for both people and as animal feed supplements, and new serums and vaccines. The chemical engineer was needed in all these fields to work out cheap processes of production as soon as demand became large enough to warrant output on a tonnage basis.

What about the future? We shall certainly see plants without workers. The

chemical and oil refining industries have almost arrived at this point now, as many operate with only a few supervisory personnel, and the principle is sure to be applied in other industries. Closed circuit television in factories will be of help in providing the necessary controls. We shall also have supersonic transportation, electronic methods of collecting and searching information, and super-rapid chemical processing with reaction rates approaching those of explosions. Improved medical methods, largely based on chemistry, will be developed.

Natural products in their "raw" state will eventually be completely displaced. We have progressed rather far along this road to date in textiles, rubber, and leather. We may some day even have synthetic foods.

Our demand for energy seems to be the one insatiable demand that we have. Petroleum will always be in use as long as the supply lasts, and that will most probably be a good many years, but nuclear energy will be a most valuable additional source of power. Professor Weber expects it to come rather quickly and to be followed by solar power. He also expects that through a bold, original idea we may eventually be able to convert random heat energy directly into electricity; this possibility may come from our new interest in the chemistry and physics of the solid state. One danger of nuclear research is the increase in radioactivity in the atmosphere, which may be a real problem to the coming generation.

One of the most pressing problems of our time concerns the impact of all these technological developments on our society. Scientists have come out of their ivory tower and met the cold blast of public opinion. The engineer has seen his work misused. Neither has been any match for the expert molder of public opinion. M.I.T. is working on this problem by broadening its training in the humanities and by fostering growth in moral, ethical, or spiritual values. — VINCENT T. ESTABROOK'36, *Secretary*, B. Standish Ayer and McKay, Inc., 50 Congress Street, Boston 9, Mass.

Boston Stein Club

On April 30, 1955, the M.I.T. Boston Stein Club will celebrate its Tenth Anniversary with a dinner-dance at the Hotel Statler. During the short span of 10 years, the Club's fund raising projects have established an impressive record at the Institute. Here are the results of the projects over the past decade:

Map Room Fund — \$30,000. Established to furnish the map room in the Charles Hayden Memorial Library, carpet the Library Lounge and purchase shrubbery and furniture for the Hayden Library Court. The balance of \$5,735 was converted into a permanent endowment fund for the Library.

Karl Taylor Compton Prize Fund — \$40,000. The first prizes were awarded at the Spring Convocation in 1954. This fund, established in honor of Dr. Compton during his lifetime, has now become a perpetual memorial to his memory. The fund was established to recognize a number of qualities: individual character and leadership; the example of brotherhood; distinguished achievement of a student activity; and service to the M.I.T. community at large. It is hoped the awards will encourage, as symbolic of the American way of life, the ideals of tolerance, individual worth, the right to be different and working together for the common good. The prizes may be awarded to individuals, to groups, or to activities of the student body.

The Technion Fund — \$12,000. Established to bring graduates from the Israel Institute of Technology, known as The Technion to study at M.I.T. These graduates will return to Israel to teach engineering and assist in the development of the Middle East.

The Freshman Loan Fund — \$15,000. Established as a loan fund for needy freshmen from the greater Boston area. Although the Institute has funds available for deserving students beginning with the second year of study, this fund takes a well-calculated risk on worthy young people who otherwise could not afford a school of the calibre of M.I.T. This fund is on a loan basis without interest so that the recipient will acknowledge his obligation to help others.

Freshman Scholarship Fund — Goal \$50,000. Established on the suggestion of Dr. Karl T. Compton and President Killian as an urgently needed fund.

Benjamin Cooper Fellowships — Approximately \$3,000 per year to be provided by Benjamin Cooper'23. Fellowships for graduates of The Technion to become special students at M.I.T. in the School of Industrial Management.

Outstanding among the dinner meetings of the Boston Stein Club was the Karl Taylor Compton Memorial Dinner held last December. At that time, Dr. Killian, the keynote speaker, described the need for technical men in the Middle East and the important role of The Technion in fulfilling this need. As a result of Dr. Compton's enthusiastic support of The Technion, their school of Chemical Engineering has been named in his honor. The purpose of the Boston Stein Club, simply stated, is "to foster the spirit of M.I.T." There are no restrictions on any Club awards as to sex, religion, race or color. — LOUIS K. FRANK'34, *Secretary*, Louis K. Frank Advertising Company, 132 Newbury Street, Boston 16, Mass.

Central Massachusetts

The M.I.T. Club of Central Massachusetts had its January meeting in the Crystal Room of the Hotel Bancroft. After

cocktails and dinner, a short business meeting was conducted by Fred Dillon, Jr., '22. Our guest speaker for the evening was Professor T. M. Whitin of the School of Industrial Management. Dr. Whitin gave a brief explanation of the mathematical techniques that Operations Research uses on industrial problems. He complemented this with concrete examples as to what had been accomplished in industry on specific problems with special emphasis on inventories. A large group, including many guests, attended; it was the first opportunity our group has had to listen to a talk by a recognized authority on this subject of growing importance. — JAMES E. HAGGETT '47, *Assistant Secretary*, 12½ Sturgis Street, Worcester, Mass.

Central New York

The M.I.T. Club of Central New York held a dinner meeting at the University Club, Syracuse, N.Y., on January 11, 1955. Dewey Sandell '49, now employed by Carrier Corporation, spoke on the manufacture, handling, storage, and transportation at temperatures approaching absolute zero of such gases as nitrogen, oxygen, hydrogen, and helium. The following Alumni attended this meeting: A. Donald Arsem, 2-44, Robert W. Ayling, 10-44, Gordon M. Gilkison '09, Edwin A. Gruppe '22, Luke S. Hayden '41, Donald L. Kidd '42, D. Earle MacLeod '38, Edwin L. Moyer, 2-44, Joseph F. Owens, Jr., '40, William R. Schuler '32, Donald E. Stearns '29, D. G. Traver, Adolph L. Sebell '40 and Norman Sebell. — EDWIN L. MOYER, 2-44, *Secretary*, Box 25, Colvin Station, Syracuse 1, N.Y.

Cleveland

The big news in Cleveland during the month of February was the third M.I.T. Midwest Conference on February 26, 1955 on the theme "The Beneficent Uses of Science." Over 200 persons attended the all-day session which was held at the Mid-Day Club in Cleveland and the unanimous verdict was that it was an outstanding success. The program featured morning and afternoon sessions of speakers and an evening banquet, and ample opportunity for relaxation and social mingling was provided in a morning coffee hour, a noon luncheon and a late afternoon social hour preceding the banquet. The first speaker at the morning session was Manson Benedict '32, Professor of Nuclear Energy in the Chemical Engineering Department, who spoke on "Harnessing the Neutron for the Research Laboratory." Dr. Benedict delivered an extremely interesting lecture on the nuclear reactor as a tool for research. The second half of the morning session featured an address on "Creative Engineering and Product Design," by John E. Arnold '40, Associate Professor of Mechanical Engineering, who has been responsible for installation of new courses and programs in creative engineering and product design in the Department of Mechanical Engineering.

At the afternoon session, Gordon S. Brown '31, Head of the M.I.T. Electrical Engineering Department and Director of M.I.T.'s Servomechanisms Laboratory

spoke on the highly interesting and timely topic of "Automation — It Touches All of Us," and brought home many of the profound economic and social implications of the progress of automation. Dr. J. G. Trump '33 then took the floor and delivered a lecture on "The Beneficent Particles—Electrons." Dr. Trump, whose addresses have highlighted several of the previous M.I.T. regional conferences, reviewed and illustrated some of the exciting medical and industrial advances in the use of high energy particles and radiation. At the evening banquet, tribute was paid to Paul W. Litchfield '96, Chairman of the Board of Directors of Good-year Tire and Rubber Company. Mr. Litchfield was saluted by the Institute, by the Alumni and guests present and by a special delegation of his fellow Akron Alumni. The principal address of the evening was delivered by Richard S. Morse '33, who is president of National Research Corporation. Mr. Morse's topic was "This Business of Research," and, drawing on his extensive and highly successful experience in the development of new techniques and products through research, he delivered a most inspiring message on the problems and promises of research in industry.

The climax of the evening was to have been the remarks of President Killian, whose 1954 Annual Report to the Corporation gave the Conference its theme, "The Beneficent Uses of Science." Because of the serious illness of Mrs. Killian, however, he was unable to be with us in Cleveland that evening, and instead his speech was read by Dr. John E. Burchard '23, Dean of the School of Humanities. It goes without saying that we greatly missed Dr. Killian but we could imagine a no more gracious and acceptable substitute than Dean Burchard.

There is much more that could and should be said about this highly successful venture, but space will not permit it. To Bill Robinson '24, our President, who inspired the project and did a magnificent job of handling the advance publicity, and to Bill Sessions, Chairman of the Conference Committee, who was chiefly responsible for its splendid organization and smooth conduct, all of us who were privileged to attend the Conference owe a debt of gratitude. Numerous others on the Conference Committee and among our local membership rendered outstanding services and deserve more recognition than we can give them here. We must however acknowledge our deep thanks to Don Severance for his inspiration and assistance. — HERBERT J. HANSELL '46, *Secretary*, 1759 Union Commerce Building, Cleveland 14, Ohio.

Hawaii

The M.I.T. Club of Hawaii held a dinner meeting on January 24 at the Alexander Young Hotel. Thirty-two Alumni ranging in seniority from Bill Furer '06, to three of last year's graduates, and including 10 of the wives, assembled in the lounge, and after a merry dinner, adjourned to an auditorium of the Hawaiian Electric Company two blocks away. There the excellent M.I.T. film, "Men of Science," was shown and explained by Dick Towill '51.

After the film, an open discussion led by Walter Spalding '10, President, brought out some interesting information. The subjects included the early work in the Islands on Dr. Terzaghi's soil analysis. Dr. Thomas A. Jagger's life-long studies of Kilauea volcano, the present studies and measurements by Dr. Reber at the top of Haleakala volcano on Maui, on radar activity in interstellar space. Mr. Spalding spoke on the desirability of at least an elementary course in astronomy at M.I.T. His thought was that the recent great discoveries in astronomy are enough to affect man's philosophic and religious thinking, and that no one can be an educated man who does not know the basic facts in this field of science.

The meeting adjourned with a promise of another meeting as soon as a suitable motive (such as a visitor from the Institute) could be found. — WALTER T. SPALDING '10, *President*, 77 Merchant Street, Honolulu 3, Hawaii.

Japan

The M.I.T. Association of Japan held a meeting on May 7 at the Japan Industrial Club. The first part of the meeting consisted of the showing of four films between 2 P.M. and 4 P.M. They were as follows: "The Telephone Hour," "Year in America," "Men of Science," and "Hoover Dam." All Alumni, their families and friends were invited to this meeting, and the group consisted of over 100 persons.

From 4 to 5:30 P.M., about 70 persons attended the M.I.T. Tea Party. Tomijiro Moria, Professor of Aeronautical Engineering at Tokyo University, who visited M.I.T. last January to meet Professor Jerome C. Hunsaker, gave his impression of M.I.T. and expressed his sincere appreciation to the Institute. He concluded his talk by saying: "I am nearly envious of my friends here who fortunately had a chance to study at such an Institution as M.I.T." In the history of all the M.I.T. meetings held here since I returned to Japan in 1925, this meeting was the first in which families and friends of the Alumni had a chance to see and understand M.I.T., where their fathers, brothers and friends studied. After viewing this M.I.T. film, "Men of Science," everyone present felt they would like to see more films concerning M.I.T. which tell and show details about the classrooms and campus life. Among the many people attending this meeting were Lieutenant Colonel R. I. Ulans '36 and Captain James Leon '48.

On November 11, 1954, a general meeting was held at 5 P.M. at the Japan Industrial Club. Mr. Lew B. Clark, Commercial Attache, American Embassy, was invited as the guest of honor and the following members attended: L. W. Glowa '32, W. A. Sullivan '17, Z-T Wong '18, S. Fujii '54, T. Hori '36, T. Ito '39, J. Kawai '21, K. Kurokawa '19, U. Nabeshima '19, K. Oye '30, Y. Tanaka, H. Wada '52, C. Amano '28, T. Furuichi '14, H. Ichiura '53, M. Kametani '25, S. Kikagawa, K. Minami '31, M. Nakano '29, O. Sugimoto, S. Togo '32, S. Watanabe '26, Y. Chatani '22, T. Hayashi '50, S. Ikehara '28, T. Kasahara '24, K. Kotoda '52, M. Miyauchi '29, A. Nomoto '51, I. Takahashi '38, S. Uchida '27, G. Weed '32.

Mr. Clark told some interesting stories concerning Boston and concluded by stating that his office door is open to all of us, for any problems we may have on trade. Admiral Sullivan attended the meeting for the first time because we did not know that he was in Tokyo until recently. The meeting ended with each person introducing himself and telling of his work.

Masuru Kametani received an invitation from the American Culture Center to attend the lecture by Clark Goodman '40, Professor of Physics at M.I.T., and T. Toyoda, Professor at St. Paul University and 1952 FSSP, on December 14, 1954. The topic of the lecture was: "Contributions of Dr. Fermi to Nuclear Science." The lecture was very interesting and enlightening.

It has been the custom that nominations for candidates for the F.S.S.P. take place at the end of January, by Professor John K. Minami. This year it took place on January 16 at Waseda University. Thirty-eight applicants were screened to 22 by an English examination. The applicants were interviewed by seven Screening Committees. After the screening all moved to the Imperial Hotel and enjoyed a *sukiyaki* dinner. This event turned out to be a special M.I.T. meeting in honor of Professor William L. Krushaar, M.I.T. Fulbright Lecturer, Osaka City University. An M.I.T. meeting in Tokyo was planned for March when Jacob P. Den Hartog, Professor of Mechanical Engineering and Head of the Department at M.I.T., will be in Japan on a Fulbright invitation. — MASARU KAMETANI '25, *President*, 71 Shimizucho, Suginamiku, Japan.

Kentucky

The M.I.T. Club of Kentucky has held two luncheon meetings in 1955. Those members attending these meetings were: Frederick Stover '10, John Poteat '18, Craig Hazelet '18, Charles Breitbeil '22, Albert Entwhistle '26, Melvin Sack '28, Edward Simpson '33, Arthur Cary '34, George Morrisette '35, Cason Rucker '35, Frank Wardwell '38, Walter Roberts '43, John Dawson, 2-44, James Kane, 10-44, Howard Edwards '45, Dan Harms '48, John Dedrick '48, E. J. Schickli, Jr., '50, Byron Burch '51.

The Club has two projects for accomplishment this spring. The first of these projects is the institution of a series of awards, to be made to outstanding seniors in Louisville high schools. To this end a committee is working on a plan for the activation of this project to be presented at our March meeting. Our second project is a dinner meeting with a guest speaker from the Institute. Because of the success of those events in the past to which we have invited our wives, this event is planned as one to which not only wives, but also other guests without direct M.I.T. affiliation will be invited. We feel that this will not only add to the success of the event but also add prestige to the Club and to the Institute. The Club expects that with the accomplishment of both of these undertakings, we will have a successful and rewarding year. — JAMES R. KANE, *Secretary*, 308 Biltmore Road, Louisville 7, Ky.

New York

After our experience with the meeting on "Automation" it seems that the M.I.T. Club of New York meetings will soon be held at Madison Square Garden. With Dr. Norbert Wiener and Dr. Gordon Brown as the drawing card, over 500 Alumni and friends braved the zero cold and falling snow to attend the dinner meeting. Handling this unexpected turnout was no problem for the executive talents of Dave Broudy '22 and his committee. The talks of both speakers were recorded for posterity on magnetic tape and may soon be available on records. I will not attempt here to steal the thunder of these engrossing speakers, but the audience was rewarded for its hardihood in braving the elements.

At this time the Club announces the installation of a permanent secretary to handle the increasing details of the club's operations. In assuming this new obligation, the Club had the unanimous approval of the Executive Committee of the Institute and Executive Committee of the Alumni Association, as well as the financial support of the Institute. Our objective is to increase our activities to the point where this additional expense will be met by the operating revenues of the club. According to a memorandum of our President, Lou Bruneau '38, the permanent secretary will be assigned the responsibilities of promoting the programs put on by the Club, assist with publicity and public relations, stimulate industrial meetings and class get-togethers, provide a clearing house for M.I.T. information for M.I.T. Alumni, and organize and maintain a placement bureau for Alumni in the area. The name of the new permanent secretary is Joseph Conrad and he comes to us from Ohio State where he was Assistant Alumni Secretary. With the aid of Mr. Conrad the Club expects to attain the goal of many years — suitable club quarters. The assistance of Mr. Conrad will also be available to the regional clubs affiliated with the central organization.

Referring to the regional clubs, the M.I.T. Alumni Association of Long Island recently held a dinner meeting with a guest speaker, Rear Admiral Roy T. Cowdrey, Commander of the New York Naval Shipyard. The Admiral, who is a member of the Class of '23, gave a very interesting discussion on, "The Place of New, Large Aircraft Carriers in Modern Warfare." The subject and the speaker stimulated a large turnout of over 70 Alumni, most of whom it seems were connected with the aircraft companies on Long Island. After the talk Admiral Cowdrey was enthusiastically elected a life member of the Long Island M.I.T. Association. Harvey Kram '42 was chairman of this meeting. Another guest at this Long Island dinner meeting was H. E. Lobdell from Cambridge. Lobby in a few words expressed his interest in the experiment in club activities now going on in the New York area. Again he extended the sympathy and support of the Alumni Association and the Institute. At the conclusion of the meeting Irv Jakobson '21 announced a projected trip through the Grumman Aircraft Corporation plant.

This news was greeted with enthusiasm by members associated with Republic Aircraft.

A committee consisting of Goffe Benson '35, Sax Fletcher '18, Ed Goodridge '33, Anton Hittl '36, and Dale Spoor '22, will try to organize a Westchester M.I.T. Alumni Chapter at the Scarsdale Country Club on February 24. We all hope that they meet with the same success as their brethren on the Island to the South. Unfortunately our plans, as mentioned in our last report to The Technology Review for the Silver-Stein Dinner at the Waldorf, have been disarranged. It is expected, however, that some alternate plan will be forthcoming to fulfill this traditional date. Aside from this, we have many interesting programs in the planning stage which will be announced. — M. R. MCGUIRE '41, *Secretary*, The Cooper-Bessemer Corporation, 25 West 43rd Street, New York 36, N.Y. JOHN E. PLANTINGA '45, *Assistant Secretary*, Meyer, Strong and Jones, 101 Park Avenue, New York 17, N.Y.

Long Island

On February 15 the M.I.T. Alumni Association of Long Island held a well-attended dinner meeting at the Roslyn Country Club in Roslyn, Long Island. H. E. Lobdell '17, Executive Vice-president of the Alumni Association, came from Cambridge to attend. The guest of honor was Rear Admiral Roy T. Cowdrey '23, at present Commander of the New York Naval Shipyard. The President of the Long Island Club, Irving Jakobson '21, introduced the guest of honor. — HARVEY KRAM '42, *Secretary*, 101 Barnyard Lane, Roslyn Heights, Long Island, N.Y.

Northern California

The first meeting of 1955 for the M.I.T. Club of Northern California was a festive occasion held at the Sky Blue Water Room of Hamm's Brewery, 1550 Bryant Street, San Francisco. Of course it is hard to understand the name applied to this meeting place, since what flowed so freely was not "sky blue water" but golden pale beer. No small amount of credit must be given to the latter, since no other attraction has brought together so many Alumni for several years. Only the presence of Dr. Compton a number of years ago attracted more Alumni. The grand total attendance of 47 made up of 27 Alumni and 20 wives enjoyed not only the refreshment described above but also a buffet dinner. Somewhere in the neighborhood of a dozen Alumni who made reservations which were not used are hereby advised to tote a six-shooter at the hip and be ready to use it in the sight of Jay Arnold, Secretary, who swears to shoot on sight. However, if dues arrears or advance payments are made by those parties Jay may spare them. Among the Alumni present were W. L. Wetmore '02, A. B. Court '10, H. J. Berg '15, R. H. Van-Vollenburgh '20, J. H. Cox '23, R. T. Perry '25, C. L. Douglass '27, G. A. Vincent '30, P. B. Howe '30, J. H. Arnold '31, G. H. Langsdorf '32, W. W. Hofmann '34, G. B. Hulett '34, J. P. Orpen '40, F. F. Noonan '40, E. H. Hustvedt '41, R. A. Lazarus '41, C. E. Moffet '41, J. C. Rich-

ards'41, W. D. McGuigan'42, G. L. Ottinger'43, N. N. Rupp'47, R. E. Brakeman'48, H. J. Zimmer'51, S. J. Kline'52, R. H. Cooper'52 and V. M. Horlick'52. The present slate of officers promise greater program activity and extend an invitation to all Alumni, old and new, not to forget the informal luncheons held every Tuesday at noon at the New Delmonico Restaurant, 328 Sutter Street, San Francisco. — JAY H. ARNOLD'31, *Secretary*, 1058 Pamona Street, Albany, Calif. RAYMOND E. KEYES'40, *Review Secretary*, 1637 Francisco Street, Berkeley 3, Calif.

Northern New Jersey

The Educational Council Committee of the Club enjoyed a splendid meeting with Bruce Kingsbury'44, Executive Secretary of the Educational Council, on Wednesday, February 16, at the Hotel Suburban in East Orange. The meeting, which was preceded by an informal dinner at the hotel and attended by about 14 of the counselors, was indeed a most successful and interesting one. Some 26 Honorary Secretaries and Educational Counselors attended the meeting as follows: Herman A. Affel'14, Summit; Otto A. Altenburg'45, Union; Howard W. Boise, Jr.'42, Plainfield; A. Raymond Brooks'17, Short Hills; Carole A. Clarke'21, Glen Ridge; Stewart C. Coey'06, Glen Ridge; George F. Des Marais'20, East Orange; Earl E. Ferguson'30, East Orange; Newton S. Foster'28, Rutherford; Sumner Hayward'21, Ridgewood; Martin King, 2-44, Paterson; E. Stanley Lockwood'21, Jersey City; Carl M. Mueller'41, Ridgewood; Rudolph J. Ozol'36, Union; John T. Reid'48, East Orange; Geoffrey M. Rollason'13, Plainfield; George M. Schnugg, 2-44, Montclair; Arthur Schwartz'47, East Orange; W. Bennett Sharp, Jr.'36, Mountain Lakes; Robert V. Townend'14, Morristown; Fletcher Thornton'36, Summit; Lem Tremaine'23, Westfield; Everett W. Vilett'22, Short Hills; Russell P. Westerhoff'27, Ridgewood; and Chester A. Williams, Jr.'38, Cranford. The President of our Club, Jack F. Andrews'33, was also there along with our guest, Bruce Kingsbury.

Mr. Kingsbury gave a brief resume of current happenings at the Institute including mention of Tech's newest curriculum—Course XXI. This course is designed primarily for those persons who have started out to become an engineer or scientist but have decided to get a more generalized training for some other field of endeavor desiring, though, to finish up and get a degree from the Institute rather than transfer to a small liberal arts college for this work. Approximately 60 per cent of the work is in science and mathematics while the remaining 40 per cent is devoted to the humanities and liberal arts. The course culminates with the degree of bachelor of science without specification. If the student then decides to follow the engineering field, he must take one more year of work at the Institute to get his S.B. degree with specification in engineering or he can go up to Harvard for a year and get a bachelor of arts degree with specification.

Entering into a discussion of the Educational Council, Mr. Kingsbury restated the two primary aims of the Council.

First, it should help sell M.I.T. It does this through the counselor's individual contact with the prospective student and through the counselor's personal appraisal of the applicant which is sent into the Admissions Office. The second aim of the Council, and probably the more important, is to establish a close friendship with the secondary and preparatory schools. This friendship should continue and grow deeper from year to year in order to obtain the best long-range effect.

The discussion then turned to the problem of scholarships. The consensus of opinion seemed to be that because of the current competitive nature of such financial aids, the Institute is in need of more four-year scholarships with the preference being to place the Regional Scholarships on a four-year basis. Mr. Kingsbury said that the Institute presently has about 25 scholarships of the four-year type of which some eight to ten are Sloan, four to five Rogers and about one to two Lockheed. Some 250 (about 25 per cent) of this year's freshman class are getting financial aids of one type or another, most of them being scholarships.

Sumner Hayward'21 then brought to the attention of those present that solicitations among the Club members is just beginning in order to raise sufficient funds for the Club's own \$500 scholarship which was approved earlier this year by the membership and is being awarded in commemoration of the 20th Anniversary of the Club's founding.

Mention was then made that these visits by the Executive Secretary to the various education council groups in the field were extremely desirable and that perhaps they could be made into an annual affair with the visits taking place preferably in the fall. It was also mentioned that as a possible solution to the problem of a large number of "no shows" (about 50 per cent of those admitted to the Institute each year fail to register) it might be desirable for the Club to sponsor a reception as early in the summer as possible after the final notices of those accepted have been sent out by the Admissions Office. Those invited to this reception would be the newly admitted freshmen; 2nd, 3rd and 4th year students at Tech who live in this area and the members of the Educational Council Committee. The plaudits and thanks of all those present were extended to Mr. Kingsbury for his coming down from Cambridge to meet with us. It is earnestly hoped that we may soon again have the pleasure of being host to him. — STUART C. STEARNS'39, *Secretary*, 25 Elmwood Place, Short Hills, N.J. JOHN T. REID'48, *Assistant Secretary*, 80 Renshaw Avenue, East Orange, N.J.

Philadelphia

The M.I.T. Club of Philadelphia held its annual meeting on January 25 at The Barclay. One hundred-two members and their guests attended. We were gratified by the fine turnout of ladies and would like to note that their presence was one of the highlights of the evening.

Our guest speaker for the evening was Mr. Ivan Peterman, who is a foreign correspondent and columnist for the *Philadelphia Inquirer*. Cy, as he is familiarly

known, spoke to us about some of the important events leading up and contributing to the sensitive world situation of today.

The chief item of business was the election of officers for the current year. Those elected were: President: Frank S. Chaplin'32; 1st Vice-president: Samuel K. McCauley'41; 2nd Vice-president: Kenneth S. Lord'26; 3rd Vice-president: Hal L. Bemis'35; Secretary: William H. Bertolet, 3rd'48; Treasurer: Charles W. Hargens, 3rd'41; Executive Committee: Robert W. Weeks'13, George T. Logan'29, George A. W. Bisbee'32, Gordon H. Scowcroft'35, Gregory G. Gagarin'43, Halton M. Beumer'48, Dexter C. Wittinghill, Jr.'51. Additional officers appointed by the president were: Assistant secretaries: Richard M. Westfall'37, Stephen B. Hazzard'43; Assistant treasurer: Monroe R. Brown'42.

It has been decided by the Executive Committee that the response to last year's dinner dance was so gratifying that there should be another one this year. The dance will be held in lieu of our regular spring dinner meeting and will take place on Friday night, April 29. We hope you will set this night aside because it promises to be one of the season's social highlights. — WILLIAM H. BERTOLET, 3RD'48, *Secretary*, 606 Highland Avenue, Glenside, Pa.

Rhode Island

The M.I.T. Club of Rhode Island held its first meeting of 1955 on February 3, 1955 at the Matcomet Country Club, East Providence, R.I. Jerome C. Hunsaker'12, *Emeritus Professor of Aeronautical Engineering* at the Institute, was the guest speaker. Other guests included Captain Raymond Needham, Commandant of the Quonset Naval Air Station; Commander Knowles, Executive Officer to Captain Needham; Albert Tavani, Administrator of Aeronautics for the State of Rhode Island. The toastmaster for the evening was Albert J. Puschin'28; also at the head table were Sidney Greenwald'43, President of the Club; William Barker'32, Vice-president; William Maroni'50, Secretary-Treasurer; and Alexander Daunis'32, Past-president.

This first meeting was a huge success with approximately 50 Club members participating. Among those present were: John M. Hanley'18, David Z. Bailey'44, Myron K. Chandler'23, H. Bruce Leslie'38, Peter J. Westervelt'42, Kenneth Warren'35, Sterling White'34, Albert Bensusan'41, Lloyd Turoff'47, Donald Paster'47, H. Katz'38, Paul Blampied'24, Maxwell Perrotta'46, Stan Franklin'18, Edgar J. Staff'45, E. W. Freeman'20, A. W. Garnell'33, William Ahlberg'51, Bertram Brown'41, Edward Dmytryk'50, I. R. Clarke'28, Edward Lockman'33, R. W. Ambach'24, Jack Eldert'27, Milton E. Nelson'35, R. Gretchen Nelson'38, Henry Wood'11, Alfred Meyer, Jr.'43, Morell Mackenzie'11, Norman MacLeod'14, Philip Mancini'26, Thomas Harding'31, Arthur Campopiano'28, J. H. Crendon'27, Dan Kiely, Jr.'47, Iver Fallstrom'30, Harry Lighthall, Jr.'47, Harry Fine'17, Dan McGuinness'50, Allan Eaton'48. — WILLIAM F. MARONI'50, *Secretary*, 54 Audubon Avenue, Providence 8, R.I.

São Paulo

At the last meeting of the M.I.T. Club of São Paulo, at the E. C. Pinheiros, we had the pleasure of listening to the expert words of Professor Yale Brozen'33, on the "Prospects of the Brazilian Foreign Exchange Situation." It was a very interesting and clear lecture, with illustrative charts on supply and demand of dollars. We are very sorry for those who did not have the opportunity to be present. Alumni present at the meeting were the following: Jorge H. Jonston'32, Werner O. Bachli'33, Gordon C. Pearson'33, James H. Shipper'37, Yale Brozen'38, Allen C. Velho'39, Oswaldo F. F. Torres'45, Victor F. B. de Mello'46, Joaquim M. Batistella'46, Jose Franco de Souza'46, Paulo F. B. de Mello'47, Rogerio N. da Silva Rego'47, Eduardo Prado, Jr.'50 and Heinz Gunther'52.

Through the co-operation of the M.I.T. Library and the U.S. Information Service, we had at our next meeting the showing of two movies entitled "Men of Science" and "Bibliodynamics," dealing with some of the many M.I.T. contributions to the progress of mankind. Our seventh meeting was held on Thursday, January 13, at 7:30 P.M. at the E. C. Pinheiros, Rua de Jose de Barros, 296-2. Since this was the only showing in Brazil of the mentioned movies and the subjects are interesting for both men and women, wives and friends were cordially invited. — R. N. DA SILVA REGO'47, *Secretary-Treasurer*, 376 Rua São Carlos do Pinhal, São Paulo, Brazil.

South Florida

At a dinner meeting held at the Coral Gables Country Club on February 15, officers for the ensuing year were elected as follows: William Sussman'40, President; Donald S. Whitmore'51, Vice-president; Kenneth P. Armstrong'10, Secretary; and Scott J. Hoehn'47, Treasurer. Bill Sussman, retiring treasurer, reported that whereas when he took over there was a deficit of \$44 in the treasury, he was turning over to his successor a surplus of \$66. There was considerable discussion of the kind of meetings that would be most desirable, and it was generally agreed that, except for encouraging bright young high school students to attend the Institute, the primary function of the Club is to afford social contact among the Alumni and their families. David Peene'29 was appointed chairman of a committee to arrange for a dinner dance to be held next April. — KENNETH P. ARMSTRONG'10, *Secretary*, 2830 N.W. 156th Street, Opa-locka, Fla.

Southern California

The annual meeting at the University Club was well attended and by enthusiastic unanimous approval Samuel E. Lunden'21 was elected president; James S. Cullison'41 was advanced to first vice-president and in charge of memberships; Anthony Thormin'27, second vice-president and in charge of meetings which was so well handled by Mr. Cullison during the past year.

Something new has been added. Harold R. Seykota'39 has forsaken the presidency of the Portland M.I.T. Club to

spark the secretary's office of our Club. At a meeting of the governors on January 31 in the Redwood Room of the Savoy more of the younger Alumni were greeted and put in positions of responsibility: Donald McCool'53 as our treasurer, R. S. DeWolfe'35 as assistant secretary, and R. W. Davis'50 as governor of the classes of 1950 to 1954. With great regret we record William H. MacCallum'24 as past president, which office, however, secures for us his fine judgment on the Board of Governors.

The governors for the other classes will be mentioned in a subsequent Review and as all are live wires we look forward to 1955 with unusual expectation. The new stationery will list these grey stock with cardinal ink, so if any of the readers have not sent in their dues of \$5.00 that action will result in an eye-ful of beauty and efficiency. Do it now and insure notices of the meeting in a motion picture studio and other coming events planned by Anthony Thormin. At the annual meeting President MacCallum announced that Frank L. Galeener of Compton High School received this year's \$900 scholarship given by the Club. Our '14 Alumnus James T. Holmes announced that the Holmes and Narver '1,250 scholarship went to Gary L. Blakely of Ventura High School and to Michael D. Kenyon of Van Nuys High School — both of these being in the area of our Club. The M.I.T. Scholarship for the Los Angeles Regional Area of \$900 went to a graduate of Chaffey High School of Chino. To this and the Club scholarship, Cambridge added a grant of \$200 room rent and a job.

Lauren B. Hitchcock'20 gave many of the inside details concerning the smog problem in and around the City of Los Angeles at our annual meeting. Dr. and Mrs. Hitchcock were the guests of honor, and were seated at the head table with Mr. and Mrs. W. H. MacCallum'24, Mr. and Mrs. S. Lunden'21, Mr. and Mrs. J. S. Cullison'41, Phillip A. Herrick'24, Mr. and Mrs. H. R. Seykota'39 and Mr. and Mrs. A. M. Thormin'27. The oldest Alumni present, George E. Lynch'99, Charles B. Mayer'05 and Zenas M. Briggs'00 received hearty applause.

Among those present were E. E. Bennett'07, J. H. Banash'06, Mr. and Mrs. H. E. Beebe'10, W. G. Harrington'10, H. S. Johnson'12, R. B. Stringfield'15, R. Welles'15, O. Anderson'18, L. A. Brown'19, Mr. and Mrs. B. S. Coleman'19, J. W. Reis'19, Mr. and Mrs. P. K. Bates'24, R. Herford'24, F. E. Reeves'24, H. W. Geyer'26, Mr. and Mrs. G. Cunningham'27, O. Hakala'35, Mr. and Mrs. P. E. Golsan, Jr.'34, R. F. DeWolfe'36, R. H. LeBow'38, A. R. Laker'39, Harry Pearlman'39, H. H. Strauss'38, A. P. Schreiber'39, W. J. Baldwin'41, Mr. and Mrs. W. Barton, 10-44, Mr. and Mrs. W. R. Neidhamer'45, W. C. Cahill'46, Mr. and Mrs. John F. Downing'46, R. J. O'Donnell'46, Max Planes'41, Edwin A. Cavanaugh'47, Robert N. Creek'47, Mr. and Mrs. W. S. Aiken'48, M. E. Campbell'48, Mr. and Mrs. T. R. Miller'48, R. W. Grott'49, Barrett Duff'50, R. W. Davis'50, Marc G. Dreyfus'50, W. P. Patterson'50, R. D. Atchley'51, R. P. Webb'51, G. L. Lynde'52, Stanley Sydney'52, Mr. and Mrs. D. Tatistcheff'52, D. E.

McCool'53, Edward Markowski'54, D. Kirby, J. B. Leiper, Alice Lunden, Margaret A. Nesbitt, F. D. Parker, John Ryckman, J. W. Siegel, Paul Snell, M. A. Woods, Ed Lyon and Gerald Fisher as guests. 1955 promises to be a year of achievement built on the foundation established by W. H. MacCallum and other loyal Alumni.

The treasurer reported \$336.47 on hand in addition to the reserve fund of \$1,000 established by the 1946 directory with all bills paid including the scholarship already mentioned. It is hoped that more Alumni will become active and pay the \$5.00 annual dues so that two scholarships may be given by our Club in the summer of 1955.

As it has been four years since the last directory, a committee will be named now and from past experience the directory will be ready for the printer by the last of the year and will be delivered at the next annual meeting and known as the 1956. All Alumni who will volunteer their services will be most welcome. Our directory is probably the most accurate and best looking of any in the United States due to the standards of the first one engineered in 1946 by the late Kenneth D. Kahn'15 and by the chairman of the 1951 directory, P. E. Golsan, Jr. With over 1500 Alumni in this area the personal labor necessary to check the records of the 800 who do not reply to the first letter is a challenge. — HIRAM E. BEEBE'10, *Review Secretary*, 1847 North Wilcox Avenue, Hollywood 28, Calif.

Washington

The third meeting of the 1954-1955 social season of the M.I.T. Club of Washington was held on January 27 at the Cosmos Club. The speaker for the evening was The Honorable Donald A. Quarles, Assistant Secretary of Defense for Research and Development. Nearly 100 Alumni and guests attended the dinner and the preceding social hour. — STERLING H. IVISON, JR.'41, *Secretary*, Bureau of Aeronautics, Navy Department, Washington, D.C. ANDREW F. HILLHOUSE'43, *Review Secretary*, Solar Aircraft Company, Cafritz Building, Washington, D.C.

CLASS NOTES

• 1890 •

1890 news, which had been somewhat disturbing, is more encouraging recently. About Christmas time Flint wrote from Florida he was "pretty well" and he and Mrs. Flint were looking for an apartment in a more quiet location in West Chester. About the same time a "round robin" from Whitney told us that after some time in the hospital, and a continuing struggle with hiccoughs, he was recovering, and he writes happily of the discovery, or the increased appreciation, of a sense of beauty which has been emphasized by these trials, and he asks: "Do we have to have clouds for their silver linings?" (But surely a few minutes glancing through his biography, or even

the '90 Notes in The Review show that he long since recognized the 'books in the running brooks.') From the New York Times we learn that Pierre du Pont left the major part of 55 million dollars to the Longwood Foundation, which was established in 1937 "for general charitable and educational purposes" with its main interest the operation of Longwood Gardens, "a horticultural wonderland" which was established as an arboretum about 1800, and which "is visited annually by more than 100,000 nature lovers." There are also numerous charitable and personal bequests. — GEORGE A. PACKARD, Secretary, 25 Avon Street, Wakefield, Mass. FRANK M. GREENLAW, Assistant Secretary, 36 Bull Street, Newport, R.I.

• 1891 •

Your Assistant Secretary had a narrow escape on January 6, the day that most of New England was coated with a thin layer of ice. He walked out on the icy sidewalk to look for his dog, slipped and fell backwards on his head causing a wound that required two stitches by a surgeon. He recovered rapidly.

Walter Douglass writes January 3 that his activities at present are so few that they wouldn't make any addition to '91 class news. "My daughter, Helen French," he writes, "is a busy architect out in San Francisco and was at the National Convention of Architects in Boston last June. . . . She is busy designing residences for numerous clients and has a daughter in Pomona College." Harrison Cole writes (December 31) that he has been active in cultivating cranberries and blueberries. He worked too hard cutting firewood, moving and digging, and as a result has been recovering from a nervous breakdown since last August. He is now feeling "pretty good" and is doing a little work about his place. Our President, Harry Young, calls attention to the 64th reunion of the Class which will be held in June at the Brookline Country Club, Brookline, Mass.

A letter from Francis B. Choate of Carmel-by-the-Sea, Calif., reads as follows: "I have never paid much attention to M.I.T. because I left at the end of my first year to earn my living upon the death of my father and felt I didn't belong to the Alumni. After working in Omaha, the West Coast, Pittsburgh, Detroit, Salt Lake City, and Denver, I finally settled in Omaha in 1925, serving as general freight agent of the Union Pacific Railroad. In 1938, at 70 years of age, I retired to California. I am married (second marriage), have given up Rotary activity and golf because my heart was giving me some trouble, and do nothing but read. I am quite well and eat three meals a day, drink some, smoke some, and drive my car a good deal, but keep out of bad congestion. I got my new driver's license last month which is good for four years. Whether my car or I will last that long nobody knows, and it is some question which will last the longer. I personally think I will outlast the car. So you see I am still on earth, enjoying myself and this beautiful scenery. This town is known as 'God's waiting-room to heaven,' and those who live here do not want to leave it, even for that."

I received a New Year's card from Frank Howard reading, "To all members of the Class by birth, marriage, and intimate friendship, greetings. I wish you all prosperity and contentment, which is the sure result of good, wholesome, and unselfish living guaranteed from 85 years' experience." Herbert S. Kimball of Redondo Beach, Calif., wrote on January 7 as follows: "Your Christmas card reminded me of my boyhood days when in the summer I often was near the New Hampshire border, just north of Lunenburg, when I noted on the sign-post I was near New Ipswich! Perhaps you have judged from what I stated in my Christmas card that I was far from being well: that is true. However, I am not confined to the house and enjoy walking in the sunny days we now are having. Indoors you might find me reading and taking notes on the history of the English people and the Scots, all very interesting, but now I have to consider my eyes to some extent. This little city has a splendid public library, but recently I have not been there to enjoy their reading room. Happy New Year for all."

In November Robert S. Ball of Cambridge, England, wrote: "Are you the kind person to whom I am indebted for The Tech Review from time to time? It is a pleasure to have it, but the diminished class list of '91 is depressing. Out of all our classmates there must be many unrecorded. If I might venture, would you be so kind as to send me a copy of your interesting paper on the Pubs (as we call licensed premises here). In this little town we have many interesting examples (some dating to Plantagenet times) and, if we are to believe what we are told, some were here when the Mayflower set out on her memorable voyage much earlier. I was interested to know that Tech is doing good work in thermal (nuclear) energy which is the coming thing, for when our coal measures are exhausted we will look to that to supply the needs (the very life) of civilization; but posterity must take over or perish. I hope you are well and that you can get about comfortably. I follow your political situation closely and wonder 'what next?' McCarthy must be troublesome. But Irishmen are not happy without their foot in the works wherever they are. The Archbishop of Canterbury, who had been attending the Evanston convention, broadcast his experiences. He was delighted when, standing on the pavement in New York, a native, pointing to his gaiters, said, 'What's the cute idea?'"

William H. Lawrence writes on January 14: "My Dear Dana: I have not written for quite a while because anything I have to write seems so lacking in interest to others. I still think this is true but I do want to make a reply to your welcome postal of a short time ago. Both Mrs. Lawrence and I are in our usual health which seems to us very satisfactory in consideration of our ages. I certainly am no longer a youngster. To be sure, I have been under Dr. Joslin's care for the last 15 years or so for diabetes which of course restricts my diet to a very simple, but adequate one. On the whole, however, I am not sure but what this has been a blessing and not a curse, as it has

kept me from any overindulgence and has held my weight to about 137 pounds, year in and year out, and outside of the diabetes has kept me in good condition.

"We still have our apartment in Jamaica Plain which we occupy in the winter and have a lovely little place at the Intervale, N.H., to which we usually go in April, returning here in November. We have at Intervale a fine garden and a good grove where I can get as much or as little exercise as I want, and I enjoy very much puttering around with the flowers. I still drive my car all the time which is the only way we have of getting around in the country, and there are endless beautiful drives all about us. We are about 65 miles from Portland which is a splendid little city in which to do shopping, and we have fine stores for our ordinary supplies about two miles below us. Last year, by the way, was my 54th of owning and driving a car, and I am proud of a clean record. I was about the first one to own a car in the region where we spend our summers and I have certainly had many interesting and eventful experiences in those mountain roads. I continued my activity as Curator of the Lowell Institute until two years ago. Then I retired after a service of 31 years which has brought me in contact with many interesting men from all over the world. This was especially true during the life of Dr. A. Lawrence Lowell. Now I am a man of leisure, but my main trouble seems to be, even now, to find time to accomplish all I set out to do. I hope all goes well with you, and I send my heartiest best wishes for the New Year. Yours very sincerely, William H. Lawrence."

Ernest Tappan writes on February 14, 1955, that he and Linfield Damon with his son and grandson represented the Class of 1891 at the Midwinter Meeting of the M.I.T. Alumni Association on February 3, 1955. — GORHAM DANA, Assistant Secretary, 44 Edgehill Road, Brookline 46, Mass.

• 1892 •

The Secretary has recently received a letter from E. C. Wells in which, I believe, all his classmates will be interested and the bulk of which I quote as follows: "With the exception of 18 months leave of absence near the end of the first World War, I have been with Platt Iron Works at Dayton, Ohio, builders of pumping machinery, for over 40 years. Although long beyond the usual retirement age, I am still there, doing such supervisory work as one can do who cannot read, but can navigate without colliding with obstructions. Of course, prior to coming to Platt Iron Works and during the 18 months when I was absent, I had many valuable and interesting experiences as no doubt all men of 'Ninety-Two' have had.

"Naturally I have children, grandchildren and great-grandchildren to the number of 34, who unfortunately are scattered at present from Germany to Iowa, U.S.A. All of them are doing well in their chosen lines or are busy growing to the age which will enable them to choose. I even have a namesake who was born and is growing up within 50 miles of the place where my great-grandfather

taught navigation to Newburyport's forward-looking young seamen. Mrs. Wells and I live in a small house on a 16-acre tract, 10 miles northeast of Dayton, being all that is left of some 500 acres which I recently sold and which I farmed as a 'City Farmer' so long as I could tell the difference between red clover and alfalfa. Having retired from the farming enterprise, I hope before long to be able to retire from my manufacturing activities as well. In the meantime, I hope to carry on with the assistance of my good wife, who is guide, chauffeur and at times secretary."

We have recently received notice of the death of George B. Hawley, who was with us in Course VI, at his home in West Hartford, Conn.

H. B. Kane reports good progress in contributions to the Alumni Fund for the current year. As you all know, this year's contributions are to be devoted to the construction of new laboratories for nuclear science, nuclear engineering and electronics, as a memorial to Karl Taylor Compton and it is hoped that all of our '92 classmates will contribute as generously as they may be able to. — CHARLES E. FULLER, *Secretary*, P.O. Box 144, Wellesley 81, Mass.

• 1893 •

A recent letter from Fred Studley expresses his regret at not being able to attend the Class reunion last June, due to illness. He is in fairly good health now and looks forward to celebrating his 84th birthday on July 2. Classmate Studley writes that "I am a 'left-over' from '92 so I have a certain allegiance to both classes and many friends, too." His new address is 57 Whidden Avenue, Whitman, Mass.

The following letter was received from Percy Thomas: "I will report that within the last 12 or 15 years I have devoted most of my energies, first, for a period (largely with the Federal Power Commission), to studying ways and means for feasibly and economically extracting bulk utility power from the energy of the wind, over wide areas; and, succeeding in working out unexpectedly favorable means (to my satisfaction), then, more particularly to leading a crusade to break through the hard shell of skepticism on the subject among power engineers, as by no means inconsiderable task. Most of our '93 men would no doubt be greatly intrigued to see how this subject has opened up in the last few years, here and abroad, but space will not permit its discussion here. How many of them know, for example, that three bills have been introduced in the 82nd and 83rd Congresses, authorizing the construction by the Department of the Interior of a prototype aerogenerator, 'not to exceed 10,000 kw'."

William Whiston of New York writes: "I retired nine years ago from the Board of Transportation, where I had been for nearly 40 years, the last few years as senior electrical engineer. I was in the office with Harry Latey until he retired a few years before I did. On last December first I resigned as chairman of the Board of Trustees of the church with which I have been connected since I came to New York about 50 years ago.

Since my retirement my only activity has been a weekly luncheon with some Delta Upsilon men. Until his death Charlie Allen was a regular attendant at these luncheons. At times there have been other Tech men but none of '93." Mr. and Mrs. Whiston take in all the good movies at Radio City Music Hall and once in a while a matinee, and they have pleasant evenings playing cards with some of their Tudor City neighbors. Classmate Whiston enjoys having plenty of time to read now that he has retired.

We are in receipt of a letter from Harry Wintringer, Jr., advising that his father is confined to his bedroom in his home at 925 North Fourth Street, Steubenville, Ohio. He writes that up to the time of his father's illness he "was most active, not only in our own plant, but in the industry. At one time he was the youngest president of a pottery in the United States, and when he was recently made chairman of our Board (The Steubenville Pottery Company), he was the oldest active president. Through the years he has maintained his interest in the Y.M.C.A., the Boy Scouts, and our local community affairs such as his church, the Community Chest, Salvation Army and the Rotary Club."

Edward S. Page tells us that he enjoys any of his leisure time in reading and gardening. The Class Treasurer, George Glidden, spends a couple of hours a day at his office. He tells us that he keeps as busy as a one-armed paperhanger. — GERTRUDE B. CURRIE, *Assistant Secretary*, c/o Fay, Spofford and Thorndike, 11 Beacon Street, Boston 8, Mass.

• 1894 •

It is never too late to urge a good thing. Therefore the Secretary would bespeak from all classmates the cordial support of the Alumni Fund which this year will be given towards the projected Compton Memorial Building, and which a generous but unknown donor has offered to duplicate in dollars. Let us make our maximum effort in helping this splendid project which will redound to the further usefulness and greatness of the school we love. The first item pertaining to our Class is the good news that George Owen, who spent most of January in the Newton-Wellesley Hospital is again at his home on Glen Road in Newton and is once more enjoying good health as a result of his enforced vacation. The Secretary had but one opportunity to visit George at the hospital but found him optimistic and cheerful and we had a very enjoyable talk of things past and of things to come. It has been most gratifying to the writer that the book, *When M.I.T. was Boston Tech*, has made so warm an appeal to classmates and numerous other Alumni who have written appreciative letters. Such statements go far to repay the three years of work that went into the preparation of the book. The writer hopes it may make a significant contribution to the Alumni Fund.

In mid-January the Secretary attended a meeting of the Scientific Advisory Council of the Refrigeration Research Foundation, Inc., held in Chicago. He has been interested in this organization since its

beginnings and has served as the chairman of the Board of Governors during this time. He also participated in a training course for cold storage warehouse foremen and junior officials and incidentally received a certificate attesting his fitness to hold a foreman's job. No offers as yet.

News from classmates is extremely limited. However, a fine letter from Jim Kimberly expressed appreciation of the report in *The Review* on our 60th anniversary, and his regret at not being with us. By interesting coincidence almost the same mail brought a fine letter from John F. Norton '06, whose father is mentioned in the book referred to above. Norton, after a busy career as the head of the bacteriological research laboratory of the Upjohn Company, spends his time on this and on golf and photography. Perhaps these two men and a few others who live in that delightful town in North Carolina should get together as a Tech group. A recent note from F. A. Schiertz was gladly received. Unfortunately Schiertz suffers from great impairment of vision and his activity as a mining engineer was long ago prevented by this affliction. He would welcome letters from any of the Class who recall his days in the old mining laboratory in the Rogers Building on Boylston Street.

Tom Richards is living with his daughter at 345 Marsh Street, Belmont. As a former class president the Secretary hopes to get him to lunch at the Faculty Club some spring day. The Secretary and his wife are leaving at once for three or four weeks, and on his return hopes to get the fellows from the Boston area together. There are only about a scant dozen of us left. It was recently noted in a newspaper that Arthur Shurcliff and his son are the landscape architects for a new high school somewhere in this area. We hope for details later. — SAMUEL C. PRESCOTT, *Secretary*, Room 16-317, M.I.T. Cambridge, Mass.

• 1896 •

As of this writing, February 2, New England has experienced thermometer readings with consequent discomfort and suffering to the thousands who have elected to make New England their permanent headquarters. As we evaluate the climatic shifts, most of us continue to enjoy this climate. The following letter from Charles Trout conveys the sad news of the passing of John Tilley. We have lost one of the most prominent and lovable characters of our Class. "Dear Fred: Looking over some old papers I ran across this in the obituary of the *New York Times* of January 28. 'Tilley, John, of Flushing, L.I., on January 27, 1955, aged 81 years, beloved father of Mrs. Gertrude Peyser, member of Acacia Lodge, No. 85, F. and A. M. Funeral service at the Hallett and Hallett Inc., Funeral Home, Northern Boulevard and 147th Street, Friday evening at 8 P.M. Interment Albany Rural Cemetery, Albany, N.Y., on Saturday.' I had a letter from John telling me he was going to the hospital for treatment of some leg trouble but I didn't expect this and his letter didn't indicate that he did. John was the man that kept the '96 men of New York together and

we will miss him. I have not get got used to being retired. I don't like it but my health continues good. My best to John and yourself. Charlie." As Charlie indicates, it was his personality and energy that sustained the N.Y. '96 group. Those of us who enjoyed the Mid-Winter class dinners will never forget the comradeship shown in John's every gesture. His professional career along the lines of modernizing air conditioning and general ventilating problems classified him as a leader in his department. The following letter has been received from an associate and very intimate friend of his, Adolph G. Syska, of New York City: "Dear Dr. Rockwell: I never knew what John did prior to the time he worked for the Mark Eidlitz Company, on April 1, 1910. I understood that he spent some time with the New York Telephone Company but have been unable to verify this. For 45 years he was chief engineer with Mark Eidlitz and Company and later Vermilya-Brown. He was in charge of all engineering, including such large projects as the National Art Gallery, Washington, D.C.; Frick Art Gallery, Morgan Laboratory, many New York Telephone Buildings including the main Dey Street Building, the Altman's Store in New York and all of its suburban shops, R. H. Macy, Inc., and other large projects too numerous to mention.

"He was an Engineers' Engineer, shunning limelight and publicity, recognized, respected and esteemed as an outstanding authority in the engineering phase of the mechanical equipment of buildings. Ten years ago a group of the leaders in the construction industry comprising architects, owners, engineers, and real-estate executives tendered John a testimonial dinner, at which time they gave him a gold watch as a token of their esteem and acknowledgment as a man and an Engineer. John died on January 27, 1955, at the Flushing Hospital after a short illness. He was 82 years old. His wife Gertrude survived him by six days, and died February 2, 1955. They are survived by an only daughter, Gertrude, whose husband Charles Peyser is manager of the Huntington, West Virginia, branch of Montgomery Ward. They have three grandchildren, one boy and two girls." We have since received notice of the death of Mrs. Gertrude Tilley, his wife, on February 2, less than one week after John's death: He had placed her in a nursing home while he went into the hospital.

We also report the passing of Frederick M. Heermann, 272 President Avenue, Providence, R.I., December 9, 1954.

At the Mid-Winter meeting at M.I.T., strange but true, the fact remains that Fred Damon was our sole class representative. It was the first meeting of this organization that I (John Rockwell) missed. Severe winter conditions and my temporary physical incapacity prevented my being there. Fred assures me that present problems and discussions are so advanced that most of us fail to benefit from the program. The absence of members of the older classes is a clear "Clarion call" to remind you that the comforts of home may be the best excuse for non-attendance in winter weather.

Let *Industrial Voyage*, by Paul Litchfield, be a must on your reading list. — JOHN A. ROCKWELL, *Secretary*, 24 Garden Street, Cambridge, Mass. FREDERICK W. DAMON, *Assistant Secretary*, Commander Hotel, Cambridge, Mass.

• 1897 •

One of the most devoted and enthusiastic members of our Class is George R. Wadleigh, of 70 Flower Avenue, Hastings-on-Hudson, New York. He never fails to respond when asked for news for class notes in *The Review*. The following letter came from him under date of January 16, 1955:

"Ever since your appeal for help came on your good Christmas card I have intended to write, but there have been too many items ahead. Now that your grand notes in the January issue of *The Review* have been noted, there is added urge to write, though still behind the date you set. I did, however, ask Tom Weymouth to get his notes in, also wrote to Ed Hawkins and hope that both have helped you out. By the way, was not the class notes plan originally to have notes 'every other month,' but not in the Alice-in-Wonderland fashion.

"You give some changes in address, one being Charles L. Hammond, 228 Clifton Street, Malden, that much interests me. He and his wife Florence have been at that address for many years. I know him well and on my annual Boston visits pretty generally go to see him. My acquaintance with him commenced in the fall of 1897, when we were both standing in line in the old Post Office Building in New York waiting to be assigned lockers on old gunboat *New Port*, which was to take us to Central America for Nicaraguan Canal survey. Hammond had been in the Class of '97 for three years, entering M.I.T. as a sophomore and my acquaintance commenced fortuitously six months after graduation. Since Nicaragua days, about 10 months for me, we have maintained contact. In Central America we were in different parties, he being on topographical survey, moving across the Isthmus, I on the hydrostatic, staying largely in one place. When his camp was near mine I saw him frequently. My 'working' hours were from 6 A.M. to 8 P.M. seven days a week, reading thermometers, river gauges and rain gauges. Frequently there were days when I could not have a 'siesta' over 10 hours long. Enough of this for now, Jack, perhaps more sometime. Thanks a lot for boosting for more contributions in your notes. I assume you are getting copies of my 'agent' letters."

The following letter dated January 15 is from Edgar M. Hawkins whose present address is 14 Stoddard Road, Hingham, Mass. Incidentally, a year or two ago Harry Worcester, Wilfred Bancroft and I had the pleasure of calling upon Mr. and Mrs. Hawkins at Hingham and received a warm greeting from both of them. It was a great pleasure to renew our old association.

"Your letter, supplemented by one from George Wadleigh, tells me that again we have your full co-operation by agreeing to act as Secretary Pro-tem of '97. Our sincere thanks are due you and

most gratefully given. Too late I realized that I had allowed the years to click off without a word from me to John or to Harry for the many years that they gave to placing '97 in the position it occupies. Harry in particular was tireless and successful in this regard as you well know, and a word from each of us was long due him. I hope he had many such.

"George has now taken on the solicitation for the class fund. It is no news to you but may be to others that without portfolio he has been '97's 'roving reporter' and contact man as well as a constant attendant at class reunions. I well remember how he went out of his direct line of travel from the town of Bemis, Tenn., which he was then building, to his parents' home in Auburndale to drop in and see us when we were living in Steelton, Pa. That was for us a most pleasant event. It was our good fortune that when George's older son married that he settled in Rochester, N.Y., where we lived for 40 years. As George visited his son regularly it was his habit to spend an hour with us. It was thus that I came to realize how tireless he had become in creating his position as 'roving reporter' for the Class. From these contacts I had many reports, Bramhall, Breed, Binley, Bancroft, Collins, Crocker, Clark and so on until I came to Hopkins. George had told others of the ease with which he could stop over in Rochester between trains on his way to or from Ohio and give me a visit. Arthur was one of the older men in the Class, of a fatherly and lovable nature. That visit was a high spot for me. Buffalo and Youngstown, N.Y., were within easy driving distance of Rochester but it was George who, from a distance, saw and brought me word from Than Howard and Tom Weymouth. At another time it was Hooker or Ed Motch, the two Hubbards or Pugh, and so on. From the reunions came word of the regular attendants — you, Walter, Harry, John and the others.

"A letter from Proctor W. Dougherty told of George's being in Washington and how they went together to see our invalid classmate Jennings. As a result, George, with others, gave needed help to Jennings in his last years. I hope we have others who can give George stiff competition for top honors as '97's roving reporter and contact man."

George Wadleigh received the following letter from E. P. Osgood. "Dear George: As you have one of those empty honors (no pay), I thought I could at least drop a line that you bumped me into forwarding a check to the Compton Memorial Fund. Your 'procrastinating' classmate had no trouble translating your hint! But the other was equally applicable. A week or two ago as 'oldest' graduate here (of some six), I was called on first on the TV hookup program featuring the electric brain at Tech. Could not resist polling some beforehand on whether the 'brain' could come out with an answer of how to attain 'peaceful co-existence.' No reaction but answer simple: balance budget of industry in a country so the people can receive the buying power to buy all the goods AND SERVICES that an electronic run country can turn out and peace can't be

helped. It is based on Karl T. Compton's perhaps most important statement: "... every person in the world can become thousands of times as wealthy as today (1938)." The only trouble is, it can't be done unless an effective majority of us become 'human beings.' It is quite simple but no laboratory yet teaches it! Such a laboratory is what we most need! 'Lingering?' Not by a jugful yet; my son and I rampaging over the state, up north to Hallelujah (I'm a bumper) Junction to get a \$750,000 uranium deal straightened out (but not in on it). Then way N.E. to Battle Mt. to locate another. Due Yerington tomorrow. Hope you are still feeling as bumptious as I do. Thanks for prodding me. Best Regards, E. P. Osgood."

We regret to report the news of the death of our classmate John E. Gilman, Jr., on December 15, 1954. The following appeared in the Boston *Globe* on December 16. "John E. Gilman, Jr., 83, for 47 years a deputy clerk of the Federal Court here, died yesterday at his home, 6 Morey Road, West Roxbury. In recent years he had been assigned to Judge George C. Sweeney's session. Mr. Gilman was born in Boston and attended Boston Public Latin School. In 1894 he graduated from Harvard, *cum laude*. For two years he attended M.I.T. and then went to Harvard Law School, obtaining his degree in 1899. That same year he was admitted to the Massachusetts Bar. He practiced law in Boston until he was appointed a deputy clerk of the Federal Court. Mr. Gilman was a member of the Sons of Union Veterans, the Charitable Irish Society, the Boston City Club, the Knights of Columbus, the Roxbury Historical Society, the Catholic Alumni Association of Boston, the Hooker Association, the Old School Boys' Association, the National Guard Association, and the Cottage Park Yacht Club of Winthrop. His sole survivor is a daughter, Mary, who lived with him. There will be a solemn high mass of requiem at the Holy Name Church, West Roxbury, at 9 A.M. Saturday. Burial will be in Old Calvary Cemetery."

The M.I.T. Alumni Register advises that they had learned from his son of the death in January, 1950, of our classmate, Alfred A. Vignos, who was registered as living at 1637 Cleveland Avenue, N.W., Canton 3, Ohio. There are also the following changes in address: Fred D. Fitch, 9 Crestmont Road, Montclair, N.J. This is merely the corrected spelling of the road on which he lives. John E. Buck, Bayview Avenue, South Duxbury, Mass. — JOHN P. ILSLEY, *Secretary Pro-Tem*, 26 Columbine Road, Milton 87, Mass.

• 1898 •

Those who attended the 55th Reunion of the Class will remember the symposium at Babson Institute under the leadership of George M. Rideout, Vice-president of Babson's Reports, and that the discussion centered about a two-page "Partial List of New Industries, Concerning Which Twenty-Four Babson Experts Are Constantly on the Watch. This List is Prepared for Mr. Babson's Living 1898 Classmates." One of the industries considered was "The Utilization of Solar Energy," on which subject our honorary

member, George R. Harrison, is particularly expert. He was kind enough to participate in the discussion, but unfortunately time did not permit a lengthy consideration of the subject. Now, secure a copy of U.S. News and World Reports, January 7, 1955, and turn to pages 82-85 and read an Interview with Solar-Energy Expert, Dr. George R. Harrison, under the caption, "Big Power For U.S. — In The Sun." Sub-titles are: "Where Energy Comes From"; "Ways of Harnessing Sun"; "How To Store Heat"; "Power Sources of Future." Almost any question that you can think of on the subject is fully and clearly answered in the interview. And what is more, if you cannot secure a copy of U.S. News and desire to read the interview, a limited copy of reprints are available, Dean Harrison graciously assures. Write to Dr. George R. Harrison, Dean of Science, M.I.T., Cambridge 39, Mass.

A bright luminary of the Class, Joseph G. Coffin, passed on November 6, 1954. Through the kindness of his devoted wife, Helen P. Coffin, we are able to include in the Notes numerous details concerning his life and career. We quote, in part, as follows: "Joseph George Coffin was born in Pittsburgh, Pa., June 14, 1877. He graduated from the College Cantonal, Switzerland, in 1892; from the College Chaptal, Paris, France, in 1894; and from M.I.T., Course VIII, in 1898. He secured his doctorate from Clark University, Worcester, Mass., in 1903; and was honorary fellow at Clark from 1903-1906. His teaching career started at M.I.T. in the Physics Department. He subsequently taught at Clark and the College of the City of New York. At the time of the First World War, he resigned his position as associate professor of Science and Engineering at the City College of New York to become director of Aeronautical Research with the Curtiss Aeroplane and Motor Corporation. This work was closely connected with the Navy. While with Curtiss he designed and built the (then largest and best) wind tunnel for the testing of aeroplanes and aeronautical research. He also published among others, a paper for the National Advisory Committee for Aeronautics on the method of computing bombing ranges and loads, which greatly simplified and shortened these calculations. At the end of the War he went with the United States Rubber Company as physicist and development engineer and developed the method for the spray drying of latex, signing patents for 22 countries. He also invented a number of novel testing machines and apparatus."

"Subsequently he was offered the position of technical director to the General Baking Company. This work was mainly technical and engineering supervision of its numerous plants. The present type of traveling ovens now mainly used in the baking industry was his conception. World War II brought him back to aviation with Fleetwings, where he was engaged in problems of subsonic and supersonic flow. At the time of his death Dr. Coffin was research consultant of Aviation and Engineering with Kaiser Metal Products, Bristol, Pa.

"Dr. Coffin published many papers

during his career. He was the author of 'Vector Analysis' and its application to mathematical physics, including geometry, potential theory, flow of heat, electricity, hydrodynamics, and so forth. He worked with Marconi and others in radio. His aim in teaching and in scientific work was always to avoid unnecessary complexity by finding the methods which simplified physical and thermodynamic theory as far as possible. He is one of 'starred' scientific men in 'American Men of Science'."

Mrs. Coffin also adds, "He spoke eight languages, four of them fluently. He played the violin; studied in Italy and France. That's how we met. I am a pianist and we have done many of the best compositions together." The Secretary can still see him as he was in undergraduate days, always alert and debonair; in particular, one striking incident, when he came gaily toward a group of classmates assembled in the corridor of the second floor of Walker, waiting for the door of the physics lecture hall to open, and courteously bowing and doffing his chapeau and swinging it in a wide circle, addressed the group in French, the meaning of which we understood after he had translated it.

The eagle eye of Lester D. Gardner discovered in the New York *Times* of January 18, 1955, an interesting article, from which we quote in part:

"Friend of Broker Heir to 10 Million. Alfred H. Caspary, stock broker, who died January 7 at the age of 77, left between \$10-15,000,000 to his friend and executor, George Murnane of Syosset, L.I., for distribution in his discretion. Mr. Murnane said Mr. Caspary had created the Almar Foundation, Inc., to carry out his philanthropic work. He said that the distribution of the new funds would be largely for charitable purposes . . . for nonsectarian corporations organized and operated exclusively for charities, scientific, literary or educational purposes, including the encouragement of art and the prevention of cruelty to children or animals. Mr. Caspary stipulated that no part of the net earnings of the foundation was to benefit any stock holder or individual and that no substantial part of its activities was to be directed to propaganda or to influence legislation." How many of the Class remember Alfred Caspary? He was with us for several years in the Boylston Street days and then for all intents and purposes dropped out of sight. He did not graduate nor reply to letters nor show up at Class Reunions. Now just solve that riddle. Was it his or our fault?

Listen to this all ye proud fathers and mothers! Arthur Blanchard writes from The Lake Shore Plantation Inn, "Please note on page 166 of the January *Technology Review* the professional card: Blanchard Construction Company, General Contractors, Portland, Ore. M. A. Blanchard '36. That is my son. He builds churches, school houses, fire engine houses, clinics, commercial buildings, and he reconstructed the Portland, Oregon, Civic Auditorium. . . . I guess I take more pride in Malcolm's card than in notices about myself." A true father! How many more '98 parents will share with us achievements by their children of

which they are justifiably proud? George Cottle left for his usual winter vacation on February 5, a trip to the Caribbean. Flying from Boston to New York and then by plane hops as follows: Curacao, Caracas, Trinidad, Tobago, Trinidad again, and then home. These notes are written before his return. May he have had a well-earned rest and recreation! We know that he will take many wonderful pictures for our enjoyment at future '98 get-togethers and Reunions.

The avocations of our classmates show up in unexpected times and places. Here's one for you. In the New York *Herald Tribune* of January 15, 1955, under the section entitled The Bridge Deck appeared, "This hand was played at the bridge tournament conducted . . . at the Elton Contract Club in Waterbury, Conn., and the somewhat optimistic bidding ended with my playing it at six no-trump," writes Alvan L. Davis. Then follows a detailed explanation of how our classmate made the slam. We are sure that Alvan will be glad to correspond and exchange experiences and techniques with other bridge experts in the class.

Elliot Barker, Edward Chapin and Ernest Russ represented '98 at the Midwinter Meeting at Walker Memorial on February 3. The Secretary cannot well chide other members of the Class for not attending, as ordinarily he has been away on trips during February. However, the pleasant experiences of that evening, recalling other Winter Alumni Reunions, leads to the suggestion that we stage a regular '98 get-together on the occasion of the Midwinter Alumni Reunion next year in February. So put that down in your engagement book for next year, boys and girls of '98.

It is our sad duty to record that Clifton White Wilder, 173 Euston Road, Garden City, L.I., passed on August 15, 1954. We thank Helen P. (Mrs. Joseph G.) Coffin for the information. There are, as yet, no further details. We are also saddened to report that Marion (Mrs. Ernest F.) Russ passed on January 28, 1954. Ernest is bearing up well. He has moved to a new address: 317 Allston Street, Brighton, Mass.

Our distinguished classmate, Lester D. Gardner, gathers honors as readily as we gather flowers in the garden in the spring, only Lester gathers honors in all seasons. At the Honors Night Dinner of the Institute of Aeronautical Sciences, held on Monday, January 24, 1955, in New York, he was awarded the Honorary Fellowship for 1954. A pamphlet covering the occasion states, "Honorary Fellows shall be persons of eminence in aeronautics. . . . Not more than one person residing in the United States . . . may be elected as Honorary Fellow in any one year." Underneath a photo of our classmate, and a very good one too, follows a brief resumé of his distinguished career. — EDWARD S. CHAPIN, *Secretary*, 463 Commercial Street, Boston 13, Mass. ELLIOT R. BARKER, *Assistant Secretary*, 20 Lombard Road, Arlington, Mass.

• 1899 •

The death of Walter W. Bonns was mentioned in the March issue of *The Review*. More information has now become

available through a clipping from the Milwaukee *Journal*. Walter, who died November 8, 1954, after a long illness, was 77 at the time of his death. He was a research engineer with Eli Lilly and Company of Indianapolis, Ind., for many years. He retired and returned to his native city about 15 years ago. He is said to have considered himself the oldest M.I.T. alumnus in Wisconsin.

An autographed copy of Edwin Sutermeister's latest book, *The Story of Papermaking*, recently arrived on your Secretary's desk. I know from experience that it is not an easy task to translate highly technical material into lay language, but Ed has been so successful in accomplishing this that even one as ignorant of the subject as I am, finds the book very interesting reading. The publishers are the S. D. Warren Company, papermakers; the firm Ed went with shortly after graduation. The microphotographs, a subject about which I do know something, show great clarity and detail, a result fostered by the excellence of the paper on which the book is printed. The book will later be reviewed by Hervey J. Skinner, V, who in turn has specialized in paper chemistry. Ed has previously published two other books under the title *Casein and Its Industrial Applications*. — B. R. RICKARDS, *Secretary*, 381 State Street, Albany, N.Y. MILES S. RICHMOND, *Assistant Secretary*, 1793 Beacon Street, Brookline 16, Mass.

• 1900 •

The preliminary returns are beginning to come in from those who hope to be able to attend our reunion next June. So far 26 of the Class have replied that they wish to come if possible. More will undoubtedly be heard from later, so a good attendance seems assured. It will be helpful if any who think that they might come but have not yet so notified Percy Ziegler do so at once. His address is 984 Memorial Drive, Cambridge, Mass.

We continue with some of the brief biographies that have been so kindly sent to the Secretary. Bill Hart writes from Westmount, P.Q.: "I was born in Foxborough, Mass., June 1, 1878. Attended public schools in Milton and Hyde Park, graduated from Hyde Park High in 1896. Graduated from Burdett School in Boston and attended M.I.T., 1896-1897. Went to Montreal July 1, 1903, and for 43 years was employed by the Shawinigan Water and Power Company and subsidiaries. For about 20 years was director, vice-president and treasurer of Parent Company. Also held other offices in allied companies. This company is one of the largest electric power companies in the world, also having large chemical and other interests. I have also been president of several trade organizations and clubs. I was in motor bus transportation for over 20 years and president of the Provincial Transport Company of Montreal for 11 years." Bill is a member of many clubs in and around Montreal, a member of the United Church of Canada, Secretary of the Board of Trustees, Dominion Douglas Church of Westmount. He and his wife, Louise (who has been to many of our reunions with him) have four children.

Zenas M. Briggs, who is a regular at-

tendant at our reunions, was born at New Bedford, April 14, 1876, and graduated from the New Bedford High School in 1892. He received his M.A. from Yale in 1898, Phi Beta Kappa and Sigma Xi, was a special student, Course I, at M.I.T., 1898-1899. He was captain in 1902 cadet battalion. In 1899 he went with the Calumet and Hecla Mining Company, Calumet, Mich. From 1900 to 1906 with Pennsylvania R.R. at Harrisburg, Altoona, Pittsburgh and Philadelphia. From 1906 to 1910 with the General Electric Company, Railway Department, Schenectady and Philadelphia. In 1911 with Professor George F. Swain on valuation of New York Central. In 1912 with Lehigh Valley R.R. and Canadian Pacific R.R. on valuations. And from 1913 to 1937 with the Pennsylvania R.R., Pittsburgh, as assistant engineer, maintenance of way. He retired under the R.R. Retirement Act December 31, 1937. Thereupon he went with the Gray Stone Quarries as sales engineer where he remained until 1942. During the next two years he was a civilian inspector in the Ordnance Department, U.S. Army in Pittsburgh. Then from 1945 to 1947 with the Citizens National Bank of Los Angeles retiring again and finally in 1947. Zenas is a member of the First Congregational Church of Pasadena. He was also a member of the Society of Mayflower Descendants, tracing his ancestry to both Stephen Hopkins and Francis Cooke. His only hobby, he says, is music, especially opera, and his aversion is television. He married in 1899, Maude Elizabeth Palmer of Fairhaven, Mass., who died in July, 1925. They had but one child, a daughter who lived only a few days.

My supply of information for these biographical notes is running short. I hope that some of you who have not been noticed in these columns will take pity and send me a brief account of your doings and accomplishments since we were undergraduates together so that we may continue to have material for these notes. — ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

• 1901 •

The replies to the Class Letter have begun to come in and I am much gratified at the number that have already appeared. I did not realize what an outstanding classmate we had in Fred Sexton. He apparently was one of the big men in education in Canada. I feel that you all should know more about him. I am, therefore, devoting the entire notes for this month to an account of his life. His biography, from which I quote, was furnished me by his wife.

"Frederic H. Sexton was born in New Boston, N.H., on June 9, 1879, and spent his boyhood and early manhood in Billerica, Mass. He graduated from M.I.T. with the degree of S.B. in Mining Engineering with the Class of 1901 and remained there for a year as assistant to Professor Hoffman in Metallurgy. For the next three years he was engaged as a research metallurgist with Dr. W. R. Whitney in Schenectady, N.Y., with the General Electric Company. Then Dalhousie University in Halifax, N.S., of-

ferred him the position of professor of metallurgy, which he accepted and held for the next three years. In 1907 the Province of Nova Scotia decided to establish a system of technical education extending from secondary vocational training upward to the university level of an engineering degree. Dr. Sexton was appointed Director of Technical Education and President of the Nova Scotia Technical College, positions held by him in an interrupted term of 40 years. In that time he built and developed Nova Scotia Technical College, which is recognized as ranking equally with nine other engineering colleges in the Dominion.

"In addition he developed many kinds of vocational training on different educational levels to meet the needs of the highly variant ambitions of the people and the wide range of industrial activity in the Province. The most important of these were as follows: (A) County vocational high schools where young people could receive a sound general education, and at the same time gain the skills and technical knowledge of one of the leading trades in the community. (B) Evening schools for coal miners where ambitious men could prepare themselves to pass the government examinations necessary to qualify for positions as foremen. (C) Evening technical schools with a broad range of subjects in which men and women of all ages could add to their knowledge or skill in the trades which they followed. (D) A system of correspondence-school instruction which offered a great many general, commercial, technical and trade courses by mail to make it possible for individuals living in remote places to qualify themselves for occupations which fitted their natural abilities. (E) A system of industrial apprenticeship covering the prevailing skilled trades in the Province. (F) A school for sailors where they could prepare themselves for certificates as mates and masters; and a similar school for men in the ranks of marine engineers. (G) A center where unemployed young people could secure trade training to fit them for jobs and receive a subsistence allowance to cover room and board while they were taking the course.

"In World Wars I and II one of the outstanding policies of the government was the vocational rehabilitation of veterans to enable them to fill positions as skilled craftsmen in peace time pursuits. It was necessary in each war period to build up a huge complex organization to provide the grade training for the thousands of veterans who desired to become skilled workers. For five years in each war Dr. Sexton was in charge of this activity for the Province of Nova Scotia, and many veterans who are filling responsible positions today regard him with gratitude as largely responsible for their thorough training and advancement. During the long period he served at the Nova Scotia Technical College he held many important offices in many educational and scientific societies. He has long been an active member of the leading technical associations which were associated with his professional activities, such as the Canadian Institute of Mining and Metallurgy; Engineering Institute of

Canada; Nova Scotia Institute of Science; Canadian Education Association; American Society for Engineering Education and many others.

"For civil services in World War II, Dr. Sexton was appointed a Commander of the Order of the British Empire (C.B.E.). A little later the Engineering Institute of Canada awarded him the Julian C. Smith Medal for achievement in the development of Canada. He was awarded honorary degrees by the universities of the Maritime Provinces at different times: Doctor of Laws from Dalhousie University and St. Mary's University; Doctor of Science from Acadia University; Doctor of Civil Law from Mount Allison University and Doctor of Engineering from the Nova Scotia Technical College. Dr. Sexton has been a Mason for over fifty years. He was an enthusiastic angler, gardener and photographer. Those who knew him best testify to the sound, healthy influence which he exerted in the realm of secondary education and in promoting ethical practices and increased public respect for the engineering profession. His contributions to the public life and services of Nova Scotia have been outstanding, and his passing marks a great loss to the Province and to Canada as a whole."

As I am writing these notes (in February) I have word from Roger Wight that his wife fell in their house and they are afraid that she has broken her leg and possibly her hip. She is in the Cape Cod Hospital. We all extend sympathy to the Wights. — THEODORE H. TAFT, *Secretary*, Box 124, East Jaffrey, N.H. WILFRED W. DOW, *Assistant Secretary*, 78 Elm Street, Cohasset, Mass.

• 1902 •

Six of the old guard showed up at the Mid-Winter Meeting of the Alumni Association in February — Bassett, Bourneuf, Collier, Hunter, Patch and Philbrick. It was a very pleasant affair and our only regret is that Dan's letter did not bring out a larger number of those living around Boston. It certainly is heartwarming and satisfying to meet with classmates and talk for a while. The sad part of it is that we can arrange to meet so little for these reunions.

It is with sorrow that I report the death on February 15 of our classmate and my personal friend, Newell C. Page. He was a native of Newburyport and one of our little group that came out of the Newburyport High School to enter Tech in the fall of 1898. Others of that group were Fred Hunter, Arthur Nickerson, Robert Pope, my brother, Joe, and myself. Because of his quiet and somewhat retiring disposition Newell was perhaps not well known outside his own Course VI, but those who knew him well found him a loyal, lovable friend with an alert mind and a keen sense of humor. After graduation Page became an instructor in the Electrical Engineering Department at the Institute and remained to become a professor. He was retired some years ago. He made his home at 28 Maxwell Road in Winchester. His wife, Harriet Atkinson Page, survives him. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

• 1903 •

Letters from Hewitt Crosby, XIII, in Sarasota, Fla., express his entire contentment with that place, even in preference to California, where Mrs. Crosby had lived for years. They had a grandson born in Berkeley, Calif., on January 21, and they planned to fly out and make a visit there, staying for a couple of months. According to the papers Florida has experienced cold weather, and possibly the Crosbys will be well out of it. Hope they have a good trip. A note from the Alumni Office calls attention to the election of McMenimen, I, to the Visiting Committee to the Department of Civil and Sanitary Engineering. We think the Institute has made a good selection and the Department is fortunate to get Mac on the visiting committee. Millard, II, writes that he had expected to be located on Long Island, having retired from Fort Pitt Bridge Works, before this. The Millards have children and grandchildren there, but their plans did not work out as expected. Says he is enjoying his leisure, still has an interest in some of his patents, and so is "not getting too rusty." New address will come in due time, but meanwhile it is still Mt. Lebanon, Pa. Eddy, VI, has asked us to get out a revised list of the Class showing those still living. By taking the list supplied the Class as of June 12, 1953, and eliminating the following, who have passed away since that list was made up, you will get the correct number as of February 1, 1955. Remove, Ackerman, Dr. Katherine Blunt, Brooks, Buhler, Myron Clark, Cross, Edwin Farnham Greene, Jenkins, McKenna, Reed, Schriftgiesser, Stiles, Angelina Weeks, Wetherald, Wing, Woodward, Kruse (not shown on the list, but a member of the Class). And add Arthur S. Gibbs, VI, who took most of his work with us, but did not get his degree until later. He has changed his class affiliation from 1909 to our Class. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, Box 103, South Wellfleet, Mass.

• 1904 •

Due to an unfortunate accident, there will be no notes for the Class of 1904 for this month. Your Secretary, after successfully surviving a swimming meet between Gardner High School and the M.I.T. Freshmen, fell outside of the Alumni Pool entrance at the Institute and fractured a bone at the base of his right thumb. The main attraction of the meet was Harry Kendall's grandson, one of the contestants for Gardner High School. We hope for the Secretary's quick recovery in time for notes for the May issue. — The Review Editors.

• 1905 •

At a class conference, let's not call it a class meeting because there were only nine present, held at the Faculty Club on the afternoon of February 3, 1955, for the consideration of important questions in connection with our 50th Reunion, there were present Babcock, Buff, Marcy, McLean, Lewis, Stevenson, Tower, Shapira and yours truly. Bob McLean

brought data as to the amounts creditable to the Class in connection with the 50-Year Gift, and it was decided that as a reward for his splendid work to date, he should be given the title of Chairman of the Fifty-Year Gift Committee. While the total amount, which we could report as of today is commendable, the percentage of givers is not high. It is hoped that everyone will do his bit, so that the percentage will approach the hundred mark. Bob's effort from now on will be towards this end. Please send yours to Robert W. McLean, 249 North Elm Street, W. Bridgewater, Mass. You can mark it "For 50-Year Gift" or "For Compton Fund."

It was also decided that instead of having a small individual cocktail party prior to the Alumni Dinner (on June 13) we join the general cocktail party in the Georgian Room of the Statler. However, for the comfort of classmates, wives and guests there will be two adjoining rooms reserved at the Statler for Monday afternoon and evening. See bulletin board in lobby for room numbers.

At this writing no further detail can be given on the Reunion at Hyannisport, as the owner, manager, and so on, are wintering in Florida. However, the dates remain the same, June 10-11-12, and we are still expecting the 125 who registered tentatively last year, plus others. You will be receiving proper forms for final registration, with instructions, descriptive booklet, etc. We are expecting those who are in key areas, Washington, D.C., Chicago, Los Angeles, Philadelphia to make up group parties, traveling by auto, train, plane, and so on. This presumes volunteers to increase attendance by a little phone or leg work. We will furnish any such volunteer a list of men in their neighborhood. Let's make it the biggest Fiftieth ever.

At the Midwinter Meeting and Dinner at 6:00 P.M. on the same day, John Damon and Sam and Mrs. Shapira joined us, making a total of 12, again the largest number in our general age group. During the evening Jose C. Bertino '23, President of the M.I.T. Club of Buenos Aires, Argentina, came to our table with glad tidings from Jack Flynn, II, a member of his club. He said that Jack was still in business, and looking forward to attending the Fiftieth. Marcy had recently returned from a trip to Mexico to welcome a new grandson. It seems that he and I are in the same groove, either going somewhere (my last trip for the same purpose to E. Orange, N.J., in December) to welcome a grandson or to our respective summer places in New Hampshire.

Frank Longley, XI, writes from the Orange Court Hotel, Orlando, Fla., where he and Mrs. Longley have been vacationing, that he has retired and has built a house on the east bank of the Bass River, Cape Cod, where they expect to be located permanently about the middle of April. He says, "I thought I was going to have a lot of leisure in retiring, but between gardening and a lot of other labors of love, and taking care of the old carcass, leisure is a rare article." Also sticks his neck out by saying that he handled the 50th reunion of his class, 1902, at the U. S. Military Academy in June, 1952. Thanks, Frank,

we can use you. Mrs. Ros Davis writes that after quite a series of misfortunes, things are looking up a bit. Her son, Dave, is recuperating rapidly at a Sanitarium in Syracuse, and a son by marriage is soon to be the country doctor in Sandwich, N.H., where Helana will make her permanent home.

Quite a number of '05 men are wintering in Florida. Charlie, Emerson, XI, sends a newspaper clipping from a Fort Lauderdale paper showing Charlie standing between two sailfish, one weighing 48 pounds, seven feet long, the other 37 pounds, six feet plus long. The paper says Charlie landed them alone, taking 50 minutes each. He is still a working partner in the firm of Haven and Emerson, New York and Cleveland, "can't get away, unless I take a vacation trip, somewhere. Although born in the West I have no ambition to die with my boots on." Ed and Isa Barrier have been wintering at 926 First Street, South Naples, Fla. Ed says she is considerably better and expects to enjoy the reunion. Bill Ball has been living for the past two months on his yacht, *Rabbit Ears*, at the Pompano Beach Yacht Club Basin, Pompano Beach, Fla.

A postal card from Hub Kenway, mailed in Ireland, tells of a rush business trip there (late in January). Apparently the trip through Ireland was very difficult as Hub adds "John Jameson was a great help." You need to be more of a connoisseur than I of the art of inbibing to understand this, but it was translated for me. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass. GILBERT S. TOWER, *Assistant Secretary*, 35 North Main Street, Cohasset, Mass.

• 1906 •

Seven members of the Class attended the 1955 Midwinter Meeting of the Alumni Association held at the Walker Memorial on Thursday, February 3. They were Sherman Chase, Carroll Farwell, George Guernsey, Chester Hoefer, Harry Lewenberg, and Secretaries Rowe and Kidder. Sherman Chase advised that he and Mrs. Chase are going abroad for three months this summer on a combined business and pleasure trip. The itinerary includes Italy, Switzerland, Spain, Norway and England. Engineering by Metcalf and Eddy in connection with the U.S. Air Bases in Spain is included in the business part of the trip. Their plans cover a boat trip to Europe and air travel for the return. Sherman is taking his camera and should have some interesting pictures for us at our 50th Reunion.

The Secretary has not had much occasion to refer to the annual southern migration this year; therefore a few words might be in order at this time. Frank Benham left January 18 for a two months' motor trip South and the Secretary provided him with a list of the '06 men in Florida which included the following: Fred and Mrs. Batchelder wintering in St. Petersburg, Ralph Patch in Winter Park, Abe and Mrs. Sherman on Longboat Key near Sarasota. Besides these transients the Class has four permanent residents in the state, viz.: William I. Lourie, II, 236 40th Avenue, Belle Vista Beach, St. Petersburg, former address

Youngstown, Ohio; George P. Shingler, V, who has been in Florida since 1931, 624 South Fernando Street, Lake City; Ralph N. Soule, VI, 512 Majoria, Coral Gables, former address Wickford, R.I.; and Lawrence E. Stone, VI, 1753 South Drive, Sarasota. Our record shows that Stone had been in Florida since 1950.

Word has been received from the Alumni Office of the death of Edward B. Pollister I, on July 28, 1954. As is often the case we must turn to our card record which extends back to 1913 for a sketch of his career. At that time he was in St. Louis with Busch-Sulzer Brothers, a Diesel Engine company. In 1914 and 1915 he was reported in Minneapolis. He served in World War I as we have him listed in 1918 as Captain of Company F of the 319th Engineers. In 1929 he was located in St. Louis with the last address there up to 1937, when he was at Elk Rapids, Mich. Through 1953 inclusive his principal address was Elk Rapids, Mich., with the exception of 1949 when he apparently returned to St. Louis for a brief period. In this connection, Technology's War Record indicates Pollister was commissioned a Captain on July 12, 1918, and he was with the A.E.F. from September, 1918 to July, 1919, his company in the 319th Engineers holding the record for fast construction of standard Adrian Barracks at Camp Pontanazen. Pollister had never attended any of our Reunions but he had always shown his interest by responding to the appeal for class funds on the comparatively few occasions when we requested them.

In conclusion, just a reminder that our 50th Reunion will be about 14 months away when you read this and it is hoped in the past month you have given careful consideration to the possibility of attending this important event. More of it later. — JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington, 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills, 82, Mass.

• 1907 •

On February 15 and 16 I telephoned to the homes of some of our classmates to obtain a little information to use for these notes. Had a very delightful chat with the wife of William F. Kimball at the family home, 19 Balcarres Road, West Newton, Mass. Learned that Will ended his employment with Raytheon Manufacturing Company, where he has been an engineer for many years, on last December 31, and is now permanently retired. At just about that same time he had a slight heart attack, which necessitated hospitalization, and he had just returned to his home on February 15th. The only child of the Kimballs, a daughter, with her husband and a 17-year-old son who attends Newton High School, live with them at the address stated above.

John T. Mahar, who received his degree in mechanical engineering, lives at 129 Gallivan Boulevard, Dorchester, Mass. I have never heard from him directly since 1907. A telephone conversation with his sister revealed the fact that for the past two years he has been in very poor health and that on December 27, 1954, he suffered an attack of coronary thrombosis, and was taken to the

New England Hospital in Boston. In 1937 John was an engineer with the W.P.A. project, and since then was located in Springfield, Mass., as an engineer with the State Housing Authority, and later in Boston with the Boston Housing Authority, of which his brother, James J. Mahar'02, is chairman. He had to retire in 1952 because of poor health. John's wife was an invalid for many years, and she died in 1947. They had no children. Eugene V. Potter is in first class health and is very busy as a fire insurance appraiser and adjuster, conducting his business from his home at 50 Garrison Street, Hingham, Mass. His wife and son, who also live in Hingham, are both well.

Through a telephone talk with Mrs. Alexander Macomber on February 15, I found that our class president, who suffered a cerebral hemorrhage in April of 1954, was in just about the same physical condition as existed last fall. He was able to move about the house but not in condition even to talk on the telephone. He can see visitors, however. I urge some of you men who read this to call on him at his home at 317 Marlboro Street, Boston. Telephone to the house before you go, however, (Commonwealth 6-7199), so that Mrs. Macomber will know that you are coming. An exhibit of over 300 decorative tiles from the collection of E. Stanley Wires of our Class was held at Boston Public Library during the entire month of February, 1955.

Had a nice talk with Everett E. Turkington, who retired from his engineering position with Associated Factory Mutual Fire Insurance Companies a few years ago, and lives at 6 Geneva Road, Melrose, Mass. I was glad to find that he and his wife and family are all in good health. Everett spends his time in making improvements around his home, in keeping his automobile in tip-top condition, and in photography. His son Robert, who lives in Concord, Mass., with his wife and two children, is a member of the Class of 1948 at M.I.T. and has received three degrees, S.B., S.M., and E.E. (Electrical Engineer) from the Institute, where he is now doing research work. Everett's daughter lives in Pennsylvania. Her husband is a professor at Pennsylvania State College. They have four children.

As of January 31, 1955, 69 men, or 41 percent of the 167 whose names are carried on the '07 class roll by the M.I.T. Alumni Fund office, had contributed \$7,680 to the Fund of 1955. This represents an average contribution of \$111.30, which is first class, but which is brought about by the very large gift of one man and by sizeable gifts of several others. If you, as you read these notes, have not yet mailed in your check, won't you do so promptly, remembering, as you decide upon the amount that you will give, that it will all go toward the Karl T. Compton Memorial Laboratories and that its amount will be equalled by an unknown donor. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1909 •

There were 11 of us present at the Winter Meeting of the Alumni Associa-

tion held at Walker Memorial on February 3, besides John Congdon, son of Howard, who comes regularly with his father. We already have spoken of him as having entered the Institute well over a year ago. It is almost unnecessary to name those present for they are the same "regulars" who attend all Alumni and Class functions. They are as follows: Howard Congdon, I; Johnny Davis, II; Chet Dawes, VI; Brad Dewey, X; Austin Henderson, I; Francis Loud, VI; John McCarthy, I; Art Shaw, I; Chick Shaw, V; Henry Spencer, II; George Wallis, II.

John McCarthy reported that he had retired last June as a teacher of mathematics in the Boston English High School. We have earlier reported that for years he has been preparing students to meet the stiff math entrance exams at M.I.T. as well as at other schools and colleges.

Brad retired two or three years ago as president of Dewey and Almy, went with Grace and Company, and recently this latter company consolidated with Dewey and Almy. Brad is now president of the Bradley Container Corporation (BRACON) of Maynard, Mass., and it is Brad's own company. It makes bottles and tubes of the well-known plastic, polyethylene. The bottles and tubes are more or less flexible and are designed for drugs, sprays, detergents, and the like. The largest size is a pint bottle. No sale is made until the company tests the product to go in the container so that it can be determined whether or not it reacts chemically or otherwise with the polyethylene. Brad reports that the business is building up fast. This is all Brad's idea of retiring.

Molly, XI, sent us a copy of the January number of *Today's Health* calling attention to an article by Tom Desmond, I, "A Sound Approach to Old Age." Tom calls attention to the fact that forced retirement and the humiliation of living off relief rolls are sending thousands of old people into mental hospitals, although all that they need is love and understanding. He urges community action to provide useful and interesting occupations for elderly people so as to develop and maintain their inner resources and to restore the respect and status which their experience once gave them. The article is quite pertinent to one of our urgent present-day problems and offers solutions that are neither paternalistic nor burdensome taxwise. In earlier notes we have noted Tom's interest in the welfare of the middle-aged and older people and the fact that he is Chairman of the New York State Joint Legislative Committee on Problems of the Aging. He wrote on still another theme in his thought-provoking article, "Engineers in Politics," appearing in the February Review.

We have received a clipping from the Waterbury, Conn., *Republican* announcing the retirement of Claude T. Wilson, I, real estate officer of the Colonial Trust Company, after 20 years of service with the bank. Claude is a registered engineer in New York and prior to coming to Waterbury had a distinguished engineering career. He was employed by many large construction companies among which are the Tidewater Building Company, the Turner Construction Company, and the Ferguson Company of New Jer-

sey, and at one time he was an engineer for the Standard Oil Company. He was the engineer on many construction projects and his work took him as far as the southern states, Cuba, and Bermuda. During World War I he was a lieutenant in the Navy. Claude and Mrs. Wilson live on Crest Road, Middlebury, Conn. They have a daughter, Mrs. Robert L. Wood, and two grandchildren. The Class wishes Claude and Mrs. Wilson every happiness in his retirement.

A few days ago we had just sat down at a table in Schrafft's restaurant at Harvard Square when George, II, and Marcia Wallis entered. We had a very pleasant luncheon together. George and Marcia were on their way from their home in Wenham to Boston on a business trip. George, who is chairman of the Board of Creamery Package Manufacturing, goes to a Board meeting at Chicago each month. The two had planned a trip to Florida but this has been postponed because of the illness of George's mother who is 93 years old.

We have received the following most interesting letter from Haylett O'Neill, VI, who, as most of you know, is in the mechanical equipment business in Houston, Texas. "I know that you will be interested to learn that the Southwest Regional Conference of M.I.T. graduates and friends met in Dallas last week (January 29) for a discussion of "Frontiers in Science and Engineering," and I had the pleasure of revisiting with Ballard Burgher, I, and Louis Jacoby, VI, of our Class. Although I have talked with both of these boys on numerous occasions over the phone and written to them, this is the first time since 1909 that we have met face to face and I can assure you the visit was very enjoyable. They appeared to be in the best of spirit and health, and while Louis is no longer leaping over logs and fish ponds on cross country hikes, he told me that he still plays a mean game of golf. As you know, for many years he was rated as about the best amateur golf player in Dallas County. I understand that Ballard is a large real estate operator and very successful but his success does not seem to have changed his natural and easy nature.

"The meeting was a huge success and I can assure you that these Dallas people showed that they know how to put on a super duper show. I am sending you a copy of the program for your comments. There must have been about 300 at the banquet Saturday night and there was full attendance occupying the available seating in the morning and afternoon conference sessions.

"The remarks of the four Tech feature speakers were certainly enlightening and inspiring and I am sure that a high percentage of their remarks will be remembered as they were certainly packed full of useful and provocative information. You know that when we were going to the Institute we very properly felt that our teachers were just about the tops in the business. I feel that the present day crop as exemplified by the speakers measures up with the legendary quality and even is superior as it should be. Dr. Wilson's speech was most constructive even though it carried certain warnings about

some of the present day anti-education. I never felt that we should deep freeze real educational ideas. . . . I wish that we could have a meeting in Houston similar to what they had in Dallas and have Dr. Wilson the principal speaker. . . . (Dr. Robert E. Wilson is Chairman of the Board, Standard Oil Company of Indiana). Dr. Killian again demonstrated his remarkable leadership and it is certainly wonderful to feel that he is of the right age with the hope of many more years of service to humanity.

"I am sorry that we were not able to get up to the reunion in 1954 as we had another engagement in the Northwest which had to be met. I am still working but have reduced speed. My younger son, Edward, is working with me and my older son, Haylett, Jr., is still with the Humble Oil and Refining Company and has just been promoted to assistant purchasing agent. We now have three grandsons and two granddaughters. I certainly hope that you will be coming down this way one of these days and we will try to show you the pecan tree which Texas legend has it that George Washington chopped down instead of the cherry tree. — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 549 W. Washington Street, Chicago 6, Ill. MAURICE R. SCHARFF, 366 Madison Avenue, New York, N. Y. GEORGE E. WALLIS, Wenham, Mass.

• 1910 •

I complained last month of the scarcity of news of class members and this past month has been worse. If it were not for Jack Babcock, who is chairman of the 45th Reunion Committee, I would have omitted the 1910 contribution to this issue of *The Review*. Jack has been working hard to make this reunion one of the most pleasant we will have had. Jack spent last Sunday evening going over his program in general. I think the selection of Chatham Bars Inn on Cape Cod is most fortunate. It is an excellent place and for those members of the class who have never visited this section of New England it offers a good chance to enjoy one of its most interesting and scenic locations. The facilities of the Inn are fine and I know of no better place to renew old friendships. At the time you read this it will be just about the time you will be thinking of attending this Reunion so watch for Jack's announcements.

There were six class members who attended the Alumni Association Midwinter Meeting: Sampson Cohen who is retired and enjoying himself, Art Curtis who is still very active and engaging in new enterprises, Russell Hastings, Hal Manson and Chester Wilson, all retired, and your Secretary. We all had a very enjoyable evening but it was evident that we had all graduated too early in this century to understand the electronics of this present age. — HERBERT S. CLEVERDON, *Secretary*, Cleverdon, Varney and Pike, 120 Tremont Street, Boston, Mass.

• 1911 •

"Some little bug'll get yer, if yer don't watch out . . ." ran a topical song the

late Raymond Hitchcock used to sing and at this mid-February writing your Secretary is just about ready to get back into circulation after a five-day bout with influenza. First time I've been "absent" for some time, but I'll admit the relaxation wasn't a bit hard to take under the watchful care of a loving wife. But now: Move over, fellers, make room for a new Grandpaw(!) The announcement came from Kansas City, Mo., and read: "A new Forman arrived at The Ranch January 30, 1955 — James Frederick, weight 7 pounds, 14 ounces to Fred and Emma Forman." The mother is the former Emma Cushing, daughter of the Allston T. Cushings. Greetings to Grandpa A. T. Cushing, I(!)

Speaking of Course I, that group was in the majority at the 1911 table at the M.I.T. Midwinter Meeting at Walker Memorial, February 3. Henry Dolliver, Bill Fortune, Fred Harrington, Carl Richmond and O. W. Stewart were the "civils." Then there was a tie between Courses II and VI, with Obie Clark, Jack Herlihy and Roy MacPherson representing the "mechanicals" and Marsh Comstock, George Cummings and Dennie the "electricals" — with the faithful Course V chemist, Morris Omansky, making up the even dozen Eleveners who attended.

It was evident at once that retirement from his arduous duties with Boston Edison particularly agrees with our Assistant Class Secretary and although he is doing a lot of work around the house Jack is proud of the fact that he doesn't ever seem to get in Mabel's way and he's looking even younger than ever. Marsh Comstock also finds retirement delightful. He and Helen spend nearly half the year at their summer home "Way Down East" in that delightful Pine Tree State. This is always such an enjoyable evening for reminiscing and looking forward to our next big reunion — June 8-9-10, 1956, at Snow Inn, Harwichport on Cape Cod. Check the dates now.

After well over a quarter of a century with Simmons-Boardman Publishing Corporation in the Windy City, Ed Woodward, VI, left Chicago in early February and went to the Pacific Coast, where his address is: 950-C Sixth Street, Santa Monica, Calif. Still with Simmons-Boardman, Ed is now Pacific Coast Editor of *Railway Age and Railway Locomotives and Cars*, weekly and monthly publications of long-standing. Best wishes for your long and continued success, Ed! Traveling East from Chicago at about the same time was Jim Duffy, VI, to be at M.I.T. for the mid-year graduation of his son, James Francis Duffy, Jr., in Course VI, electrical engineering — like father, like son. Unfortunately Jim and his son had to be back in Chicago immediately thereafter, so we didn't see them.

As welcome as a valentine was a recent letter from Phil Caldwell, I, vice-president Robertson Paper Box Company, who had to miss the Welcome to Dennie class luncheon in New York January 11, due to illness. "Thanks a lot for the note you sent me following the luncheon in your honor," he writes, "and I sure was sorry to miss seeing you and the others. However, I am much better now and go to work every day, although I have relin-

quished some of my responsibilities. Bobby and I have bought a home in the country, half-way between Wilton and Ridgefield, Conn. We're moving there on February 24, our address being: Spectacle Lane, Wilton, Conn. Regards to all."

Another most welcome letter recently was one from President Carl Ell, I, noted head of Northeastern University in Boston. "You are always so kind, friendly, and generous," he writes, "in recognizing Northeastern in your notes concerning the Class of 1911 in *The Technology Review*. Your generosity and enthusiastic support are deeply appreciated, but make me feel very inadequate when I realize how little time I have been able to give to Class activities and contact with Eleveners. So many matters have crowded in and continually consume time from day to day that I have found it possible to pry myself loose for little else beyond pushing this work for young men and young women who are interested in working while pursuing their college courses or are employed full time and must attend evening schools. You, Dennie, deserve great credit for the magnificent job you have done through the years in maintaining such close contact with the members of the Class. I wish to express as a member of 1911 my best wishes for you and yours in the year 1955." Thanks a million, Carl, you keep up your work for those deserving young people and I'll keep on boosting 1911 and we'll hope our paths cross more often as the years roll by. Try to make our 45th, if it doesn't interfere with next year's N. U. Commencement.

Also a nice letter from Minot Dennett, II, who heads the M. S. Dennett Company, Lexington Building, Detroit 2, Mich. Minot wrote: "Since this is a very special occasion, I am doubling my previous Alumni Fund ante (a substantial one). Vera and I manage to keep in good health and spirits and we both want to be remembered to you and Sara and all inquiring friends." Like Tennyson's "Brook," good old Johnny Bigelow, IV, keeps on as tax title custodian and city engineer in his native city of Marlboro, Mass., having just been reelected. W. J. Seligman, III, and his wife, Daisy, wrote in late January from Hollywood Beach Hotel, Hollywood-by-the-Sea, Fla., stating that they were no longer making the Hotel Astor in Times Square, New York, their permanent address, but rather Sellie is now using Suite 708, 101 Tremont Street, Boston 8, Mass. as a mail address. They are traveling a lot, but are hoping to see the gang in June, 1956, at our Forty-fifth Reunion.

My faith in 1911 responding generously to this year's special Fund appeal for the Karl Taylor Compton Memorial Laboratories has certainly been rewarded. Sparked by an even larger than usual gift from Class President, Don Stevens, II, the totals through January 31 are now at hand, showing 97 contributors and \$3,404, with five months still to go. Thus we have already passed last year's total of \$3,030 and are within 18 of last year's 115 subscribers. Our three-month total includes a baker's dozen of above-average gifts (the current class average being \$35.10): one \$800, two \$200s, five \$100s, one \$60 and five \$50s.

But hold everything! We never mention names and amounts, but confirmation is now at hand that our "Chief" industrialist 1911-er, a corporation member from Pittsburgh, has just sent in his personal check for \$5,000, which makes it possible in the current fund for 1911 to reach \$10,000 with some extra effort on the part of each of us. That really leaves me at a loss for words, although I have tried to express adequate appreciation to our loyal Alcoa classmate! We can all be so proud of 1911, mates, for in 13 Alumni Funds preceding this one we have given \$44,628.57, the fourth largest total by any individual Class from those through 1916 that graduated from the Boston side of the Charles River. It won't be too late when you read these notes to make sure that 1911 makes "The Mysterious Mr. X," as they call him, put up another \$10,000 to match our class total. Subscriptions will be accepted right up to July, 1955 — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Framingham, Mass. JOHN A. HERLIHY, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

A very attractive Christmas card was received from Jennie and Lester White who are spending the winter in Rome with their daughter. They reported a very pleasant trip across and we hope to have the complete story of their trip at a later date. Philip Jones, VI, retired recently from the Bell Telephone Laboratories where he had been editor of the Bell System Technical Journal and Bell Laboratories Record. Just before that time he was elected Mayor of Northport, N.Y., on a reform ticket and was sworn in on April 6. Bill says he will not run for reelection as he wants to move to a more temperate climate. Lee A. Bailey, IV, is now located in Fort Lauderdale, Fla., having retired nearly a year ago, where he is operating a motel and was good enough to enclose a color photograph which shows a most attractive brick structure with swimming pool. He would be delighted to welcome any friends from 1912 at his address at 2415 N.E. 33rd Avenue. Ralph Symonds, II, of the N.E. Trawler Equipment Company was fortunate enough to be renegotiated and ran into Albion Davis at the Boston Board office recently. Quite an honor for Ralph, I am sure.

We regret to report the death of J. David S. Benbow on October 9 from a coronary. His wife Elizabeth survives him and she is living at 400 Douglas Street, Reading, Pa. Dave had been manufacturing cigars ever since graduation, and I well remember the samples he brought up to our reunion 10 years ago.

We also regret to report the death of Mrs. Charlie Dodge of Manchester, Mass., who passed away in January. The Dodge's have carried on the family business of custom made furniture for many years and have a most attractive showroom full of many antique designs.

Frank W. Caldwell has just retired as Research Director of the United Aircraft Corporation. Frank has been mixed up with flying ever since graduation and has won honors in this industry, including the coveted Collier Trophy in 1933. Starting

out with the old Curtiss Airplane Company in 1916 he soon became interested in propeller development, and was soon appointed civilian engineer in the Aviation Section of the Signal Corps who were the Air Corps at that time. He was later named chief of the propeller branch of the Army Air Corps, a post he held through World War I to 1928. In 1929 he joined the Standard Steel Propeller Company as chief engineer and when this company was merged with the Hamilton Aero Manufacturing Company, Frank went along as chief also. He is credited with many vital contributions to the aircraft propeller. Hamilton propellers were standard equipment on 35 percent of the combined allied military aircraft during World War II and today are on 90 percent of the world's scheduled airline transports. Frank says he hasn't been retired long enough to know what its like, but is looking forward to lots of fun. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. *Assistant Secretaries*: LESTER M. WHITE, 4520 Lewiston Road, Niagara Falls, N.Y. RAYMOND E. WILSON, 8 Ogden Avenue, Swarthmore, Pa.

• 1914 •

It has been learned with a great deal of pleasure that Harold T. Bent has been made vice-president, in addition to being works manager, of the large Newport News Shipbuilding and Dry Dock Company of Newport News, Va. It will be recalled that Bent has been with that company practically ever since he left the Institute. Under his direction in recent years many large ships have been constructed. Two of the current ones are the *Forrestal* and the *Ranger*, which are the new 60,000 ton aircraft carriers. It is always very pleasant to see one of our classmates rise to such an important position.

Rucker Bristow, who has been associated with citrus fruit companies in Dunedin, Fla., for many years has changed companies without changing positions. Rucker is now with the Minute Maid group which recently acquired the company with which he was associated, namely, the Florida operations of Clinton Foods, Inc. Rucker was one of the pioneers in developing orange juice that actually tasted like oranges. On February 3 the Boston group of M.I.T. men met at Walker Memorial for what is known as the Midwinter Meeting. As your Secretary was in New York at that time, he was unable to attend, but Ernest Crocker reported that he saw our classmates Clark Atwood, Louis Charm, and Chester Conney at the meeting.

Our combination cranberry grower and engineer, Russell Trufant, has been promoting a low head pump claimed to be reversible on very short notice and which may be installed in a wet trench through any sort of dike or levee in which there are two feet or more of water. According to Trufant it has many unique features, and your Secretary suspects that its principal use is in connection with flooding cranberry bogs, although it is by no means limited to such service.

As your Secretary is leaving on March 1 for a trip to Johannesburg and return-

ing through the European continent, the notes for the next three issues will be prepared by the Assistant Secretary, Herman Affel. Your Secretary plans to be back before Alumni Day and will, therefore, look forward to seeing as many as possible who can attend the affairs at that time in Cambridge on June 13. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N.J.

• 1915 •

As you read these Notes it will be only two short months to our Fortieth Reunion. Are you going to be there? Over 50 of us are planning for it. How about you? When you read that list of classmates on the front page of your next Reunion Notice, there'll be some there you want to see again. A loyal bunch of fellows have agreed to be "Area Key Men" and urgently solicit groups in their geographical areas. You'll be hearing from one of these. On the Coast: Hen Berg, Ray Stringfield, Dave Hughes, Ken King. In the Mid-West: Gabe Hilton, Carl Dunn, Loring Hall. Ohio and the Southwest: Parry Keller, Herm Morse. Philadelphia: Herb Anderson, Sol Schneider, Ed Whiting. New York State: Ben Neal, Otto Hilbert. Washington, D.C. and the Southeast: Bill Spencer, Lloyd Chellman, Ken Boynton. Metropolitan New York: The indomitable Hank Marion and his own committee. Connecticut: Vince Maconi, Wayne Bradley, Alan Dana. Northern New England: Speed Swift. All good men and true. Answer their calls and come to the Reunion. Massachusetts and Metropolitan Boston will be handled intensively by a local group. We're well organized, now let's produce 100 classmates for the Reunion. Plans are to meet at 1915 headquarters at M.I.T. (Room number to be announced later) at noon on Friday, June 10, where the Transportation Boys will take you in cars to the Cape, or go directly to the Cape from your homes. The Reunion on the Cape is STAG and INFORMAL. Returning to Boston on Monday, June 13, we can visit M.I.T. and then bring wives, daughters, friends and families to the gay Class Cocktail Party which Al Sampson and Barbara Thomas are putting on at The Algonquin Club, Commonwealth Avenue, Boston, at 4 o'clock Monday afternoon. The "Stein-on-the-Table" Alumni Dinner at the Statler that evening will end a wonderful Fortieth Reunion. Will you be there?

The famous 1915 spirit showed itself in the cordial and pleasant reception and visits I had recently with Ted Spear, who is vice-president of Oxford Paper Company, Rumford, Maine, in charge of Public Relations; with Doug McMurtrie, who is technical research director at Brown Company, Berlin, N.H. Old friends still are good friends. Incidentally, Ted's two charming daughters have put him in the Grandfather's League with four grandchildren. Clive Lacy and his Committee on Special Gifts to the Alumni Fund for the Compton Memorial did an outstanding job. Those chaps all turned in complete reports with substantial contributions. Many thanks and hearty apprecia-

tion to Allen Abrams, Herb Anderson, Ken Boynton, Dave Hughes, Clive Lacy, Vince Maconi, Hank Marion, Ben Neal, Wally Pike, Al Sampson and Henry Sheils.

Class Agent Max Woythaler's record shows what this Committee did: On January 31, 104 contributors had given \$6,571 for an average of \$63, whereas the total of all classes had increased 83 percent over 1954, as of that date 1915 showed an increase of 123 percent; the average for all classes increased 76 percent and 1915 average increased 117 percent. Nice going, Clive, your Committee and Max. Let's all keep 1915 right up there all the time.

On March 19, Frank Scully is giving a paper in Seattle, Wash., at The Oil Heat Institute of Washington Convention there. He will be in San Francisco on March 21 and Los Angeles on March 27. Armed with a list of West Coast classmates, Frank plans to stir them up out there to come to the Reunion. Upon his return we are having a Class Dinner in Boston for final Reunion plans. Are you coming to the Reunion?

Already some rumbling warnings: Parry Keller writes from Akron in January, "We are having a rugged winter. Spring (especially the June Reunion on Cape Cod) is awaited with pleasant anticipation."

Sol Schneider, Havertown, Pa.: "We had a very good turnout for the New York Class dinner and I certainly enjoyed seeing the boys again. I am looking forward to the Reunion and the get-together afterward. I will try to get in touch with you when I am in Boston the week of April 4 and perhaps I can be of some help in getting our local boys out for the Fortieth."

What a Class! That New York Class Dinner on January 21 at The Chemists Club was really something. Hank Marion and Larry Landers did it again with a splendid dinner and meeting. Attendance of 38 set an all-time high record. The long distance awards went to Ben Neal who flew in from Buffalo and Phil Alger who came down from Schenectady. Greater loyalty have no men! Phil had a 1916 Technique and compared pictures then and now, with and without hair and double chins. We're not getting any younger. Al Sampson spoke on plans for the Fortieth Reunion in June and Ben Neal gave a sentimental resume of his work on Clive Lacy's committee (mentioned above in the Notes). Not only did Hank get out this record crowd, but he contacted every man on the list and read a brief report on those who did not attend—a monumental job, details of which will be in next month's Notes. Seventeen men from the dinner gathered later in our comfortable suite at the Club for nostalgic reminiscing. On Saturday, Hank and Ed Whiting spent the morning with the Boston gang, who returned on Sunday. A very successful and heartening Class Dinner.

It's a pleasure to announce the marriage on March 19, of Jerry Coldwell to Mrs. Verta White of Swampscott, Mass. Mrs. White is the widow of George R. White, 1918, who died in 1944. Congratulations from our Class and all our best to them.

See you at our Fortieth in June. — AZEL W. MACK, *Secretary*, 40 St. Paul Street, Brookline 46, Mass.

• 1916 •

We think you will be interested in a brief report of the response of our Class to the 1954-1955 Alumni Fund appeal. 1916 seems to be making an enviable record in connection with the 1954-1955 Alumni Fund drive but for those of you who have not yet contributed or who wish to increase your contributions there is still plenty of time to do so. The drive doesn't close until June. Last fall, Bill Barrett, Walt Binger, Steve Brophy, Harold Dodge and Chuck Loomis met in New York as a committee to encourage contributions to this year's fund. Bill Barrett, of course, is the Class Agent and almost all of you have heard from him regularly, and will continue to do so. The other four members, Walt Binger, Steve Brophy, Harold Dodge and Chuck Loomis, have written many of you pointing out that this year's Alumni Fund provides an opportunity to participate in the Karl Compton Memorial laboratory. As most of you know, all of this year's fund will be allocated for that purpose. Still another reason for bearing down more heavily this year than at any other time is the fact that some good angel, at present anonymous, has offered to double every dollar that is given to this year's fund. Whoever made the offer must have a very sincere interest in M.I.T. and will be glad if we make it cost him as much as possible. One more point. While 1916's total dollar contributions have been and still are high compared with most other classes, the percentage of the class that contributes to the fund is relatively low. Perhaps those of you who have not acquired the habit of contributing will want to start doing so this year, in order to have a part in the Karl Compton Memorial.

Great enthusiasm is reported from New York regarding the February 2 automation dinner meeting put on by the M.I.T. Club of New York at Longchamps Restaurant on 42nd Street. If Dr. Norbert Wiener (Father of Cybernetics) and Dr. Gordon Brown (Director of the M.I.T. Servomechanism Laboratory since 1941 and now Head of Course VI) are scheduled to repeat their talks in any other location, the advice from Gotham is loud and strong—don't miss it! A most thrilling and penetrating and up-to-the-minute story of electrical and mechanical brains in industry and a discussion of their impact on the social structure of tomorrow. Among the audience of some 600 in New York were Duke Wellington, Peb Stone, Walt Binger, Mrs. Steve Brophy, Art Caldwell, and Harold Dodge (with daughter and new son-in-law).

Some more in the interesting experiences of Joel Connolly in the Philippines: "In the past months, Joel's work has taken him to so many interesting places in the Philippines that one scarcely knows where to begin to tell about them. Among the more unusual experiences is a trip by boat through virgin forests which have never been explored, following rivers which afford the only means of communication through these sparsely populated regions.

Also interesting are visits to areas inhabited by the Moros, in the southern islands, trips into areas peopled by descendants of the original tribesmen who preceded the Filipinos in these islands and a visit to Hibok Hibok volcano, which less than three years ago killed many people in a violent eruption. Another thing of interest was seeing the flagellantes on the morning of Good Friday. When Joel was a boy, reading about explorers, he wished that the day might come when he, too, might visit the untrodden forest and see jungles inhabited only by wild animals and savages. However, he thought, then, that such places no longer existed. Now, however, he has seen such places, where the only sign of the hand of man is an occasional log showing axmarks floating down the river or lying stranded on its bank. He has gone for hours along the smooth stream, listening to the harsh voices of tropical birds and chattering of monkeys, seeing only a boat or raft of bamboo or rattan at long intervals.

"The boat used was a hollow log, four feet beam and forty feet long, having an outboard motor. Every little while they had to step overboard and lift the boat off a sandbar on which it had grounded. Since schistosomiasis has been found in that area and the disease is spread through the skin by wading in streams harboring the parasites, they didn't feel too good about this feature of the trip. This boat took them rapidly down the Agusan River through beautiful dense forests. Leaves of these vines were often 18 inches long by 12 inches broad, occasionally still larger. So dense was the shade that they could see distinctly only a few yards from the river's bank into the woods. . . . The sense of aloneness in this jungle is quite different from that experienced on a mountain top, for some reason. Perhaps it is because of the contrast of bountiful animal life around, brightly plumaged birds, fish, crocodiles, insects and, unseen but heard, animals of the forest, with the dearth of human life. An interesting sight was houses built in tree tops in areas where, during the rainy season, the level of the river is said to rise about twenty feet above the banks. Most of the few inhabitants go to high ground at that season, but a hardy few choose to stick it out in trees and in floating houses. . . . One thing that residence in the Philippines has impressed upon us is that happiness does not depend upon one's wealth. Many of the most cheerful people we know live in houses which in American cities wouldn't be permitted to be occupied as human habitations. Wages are low and food is high-priced, yet the majority of the people are apparently happy and usually have a ready smile.

"We plan to return to the United States by way of Europe in order to see our son there. . . . Joel hopes to be able to go on the Western Outing of the Chicago Mountaineering Club next summer. He has been disappointed in the scarcity of opportunities to climb here, the only real climb being his ascent of Mayon Volcano. We recently visited Taal Volcano but it wasn't much of a climb. It was interesting, though, as the bottom of the crater is filled by a hot lake. Joel swam in it, being careful to keep away from the boil-

ing springs that keep it hot. . . . In 1811, this volcano destroyed all life for many miles around, but today people are living on its slopes. It is not extinct and will erupt again, no one knows when. Taal Lake, 17 miles long, is warm from the heat of the volcano that rises in its center." Thanks very much Joel for bringing to us the very interesting account of your life on the Philippines. Maybe you will have an opportunity to be with us at the reunion this June and then we would have the pleasure of hearing of your later experiences first-hand.

Jimmy Evans sent us a copy of a clipping which appeared in the *New York Times*. The clipping told of a vow made by members of Psi Upsilon Fraternity House at Cornell University to meet every five years for the rest of their lives. In the year 1955 it was expected that only one member would be at the appointed time and place for the reunion, although seven of the original 28 who made this pledge are still living. Jimmy felt that there are many in our group who have a similar thought in mind when they indicate a desire to have a reunion every year; and we have 15 or 20 members of our Class who will, we believe, make every possible effort to meet at the June reunion every year from now on, as long as they live. In keeping with this sentiment, we have reserved space at the Chatham Bars Inn in Chatham (Cape Cod) Mass., for our get-together in June (14th, Tuesday and 15th, Wednesday). If you haven't been able to make it for the last couple of years, be with us this June. There is a tremendous amount of pleasure to be had just by spending a quiet couple of days with some of your old friends and acquaintances, and it is doubly enjoyable when you can do this in an Inn which offers you excellent accommodations, a fine menu, and a golf course and the seashore close at hand. What more can you ask for assurance of a wonderful and profitable get-together?

We were pleased to note that Chuck Loomis was one of the principal speakers at the New England Council's Executive Manpower Conference held recently in Boston. We were sorry to learn that Gene Lucas has not been feeling well. We're hoping that he will be as good as new soon and raring to go to the Cape for our reunion.

We regret very much having to report to you the passing of Donald Choate on December 26, 1954, and Carlin Harrington on September 12, 1954. We have no information as to the cause in either case. Your Secretary has written to the loved ones of the departed expressing the sympathy of the members of the Class of 1916. Phil Baker wrote us telling of the death of Milton Pettibone on January 17. Although he wasn't officially a member of our Class, many of us will remember him and be saddened by his passing. A final reminder—the reunion in June. Also, keep your letters coming, thus keeping up the wonderful cooperation you have been giving us right along. —RALPH A. FLETCHER, *Secretary*, P.O. Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Laboratories, Inc., 463 West Street, New York, N.Y.

• 1917 •

Enos Curtin, who only recently returned from Korea, is undertaking a new assignment in Europe for F.O.A. beginning February 10 for a period of three months, but he will have opportunity to commute back to New York once a month. Paul Bertelsen, who is now living in Charlottesville, Va., writes: "After three years in New York, I cannot tell you how happy I am to be back in the sticks in this lovely part of Virginia. We are building the most modern plant in the manganese industry and expect to have it in operation next week."

Evan Wheeler, who retired as General Purchasing Agent for Western Union in July of 1954, died suddenly last November 14 in Springfield, Mass. He had been motoring from his home at Plymouth, Maine, to Plainfield, N.J., where he had lived for many years. We have also received word that Milton Pettibone died on January 17 in Grosse Point, Mich.

A recent visitor from Grasselli Chemicals Department of Du Pont brought word of greeting from Howard McQuaid. I understand he is now righthand man of Dr. Salsberg at Grasselli in the capacity of a special assistant to the management. Bill McAdams, Professor of Chemical Engineering at the Institute, was recently awarded the Worcester Reed Warner Medal of the A.S.M.E. for his work on heat transmission. Walt Whitman has been named secretary general of the first world scientific conference on peaceful uses of atomic energy by U.N. Secretary-General Dag Hammarskjöld. Eighty-four countries, 10 of them Communist, have been invited to send five delegates each to the conference, which will be for exchange of information only. Hammarskjöld's announcement brought disclosure that the Soviet Union will report on their 5,000 kilowatt atomic power plant which they have claimed they put in operation last summer. The sessions will be held for 12 days in the Old League of Nations Palace in Geneva, Switzerland, starting August 8.

Your Secretary ran into Ed Warner in Montreal, was given a ride downtown from the airport, and had the first chance for a chat in many years. Ed is head of the Council of the International Civil Aviation Organization, with main offices at Montreal, but in spite of this assignment said he is not traveling as much as he should—putting together the places he had visited within the last two or three years I could find that he only had been through Europe, Africa and South America, with, I believe, one brief trip to Australia. In the meantime, he commutes every other weekend to his home in Duxbury, Mass.

The Midwinter Meeting had its usual pleasant 1917 gathering in the Sky Room at 100 Memorial Drive followed by the dinner, marred for your Secretary only by the fact that he was asked to introduce the three speakers on the entertainment program. Fortunately they were all good friends from nearby organizations built on technological development: Bill Garth of Photon, Inc., Dave Dewey of High Voltage Engineering Corporation, and Bill Barbour of Tracerlab, Inc. Ac-

counted for at the Sky Room: Rudy Beaver and son John, Ray Blanchard, Bill Colleary, Art Dickson, Paul Dudley, Brick Dunham, Stan Dunning, Lobby, Al Lunn, Jack Platt, Ray Stevens, Tubby Strout, Win Swain, Ed Tuttle, Ed Woodward. At the Alumni dinner they were joined by Al Chase, Hal Knapp, Stan Lane, and Ray McDonald. —RAYMOND STEVENS, *Secretary*, 30 Memorial Drive, Cambridge, Mass. W. I. McNEILL, *Assistant Secretary*, 270 Park Avenue, New York City, N.Y.

• 1918 •

In the early days of our having class notes the clamorous voices which reached these ears were mostly exuberant noises about weddings. There followed logically enough, amid murmurs of pleasure, reports of population increases here and there. As far as we know that statistic was topped by Lester Conner whose total is eight. Then came the age of promotions and achievement, during which some of the brethren got national reputations and made Who's Who. A few even became known in other lands. Time enough had now gone by so that a few grandchildren got listed in the class notes, and a few second marriages got either formal mention or whispered comments. Now, it would seem, comes a new era when many of us are crossing geographical boundaries. Sam Chamberlain is doing a book about Italy, working on location of course. Yale Evelev is on a seven month trip to Europe, leaving his business in the hands of two sons, who doubtless taught the old man all they could while he was still in the office. Yale and his wife sailed January 27 on the *Constitution* for Gibraltar. From there, by easy stages, they go through Portugal, Spain, Southern France and Italy. Then five weeks in Israel followed by Ireland, Scotland, and at last Germany. This will really be the climax of their journey, for in Heidelberg will be waiting their youngest son Martin, who is there with the U.S. Army. Eventually, full of new sights and strange sounds, they will want to visit the States again.

On April 21 Max and Selma Seltzer fly to Rome, passing Mr. John Foster Dulles going in both directions. From the sacred city they go down the boot, pulling Italy's leg, you might say, and thence to Israel where Max has been commissioned to organize an M.I.T. Club in Haifa, and with an imagination anchored in engineering reality, to make a suggestion or two at Technion. Mission accomplished, they then enjoy all the delights of the Italian and French Riviera, long ago described with song and dance in the Tech Show of our freshman year. Next comes Switzerland, the high point of any European trip being, of course, the Alps. Then combining sentiment with drama, beauty, and goodness knows what . . . Paris, though whether the Trocadero or the Moulin Rouge deponent sayeth not. Me? My tingle of anticipation came with a trip to South Dakota to address the Bankers' Association on Washington's Birthday. Remember what George said when he cut down the cherry tree? "Timber!!" —F. ALEXANDER MAGOUN, *Secretary*, Jaffrey, N.H.

• 1919 •

George Michelson and Harry Cikins represented the Class of 1919 at the M.I.T. 1955 Midwinter meeting on February 3. Glad to have word from George McCarten in January that he was able to get into his office for about five hours each day and was able to get around with a cane. From Don and Evelyn Kitchin: "Sorry to miss seeing all of you people at Wentworth-by-the-Sea. We drove to Pocono Manor for National Research Council insulation conference and visited Don, Jr., and family on way home at Kimberton, Pa. They have a new baby girl born October 31, 1954, Gail Linda, so that makes our second granddaughter. We love living in Winchester and Don has been having fun skating on Winter Pond back of our house. We all felt so sad to learn Bob Maynard had died last week. We saw him in June at luncheon. There were quite a few 1919ers there."

We wish to extend our condolences to the family of James H. Smith, who passed on August 27, 1954. For many years he had been associated with the United Shoe Machinery Corporation of Beverly, Mass.

Thanks to Wirt Kimball for the following item which appeared in *The Boston Traveler* on January 18: "This Sort of Luck Stumps Hunters. Grand Rapids, Mich. (UP): Jackson Fleckenstein of Ionia claims to have a 'magic' hunting stump. He shot his fourth deer in four years while seated on the same stump. Fleckenstein's friends have suggested he sell tickets to his 'magic' stump in Osceola County during next year's deer season. But Fleckenstein's wife doesn't need a bewitched stump. She shot a 125-pound buck the day before he did. And her buck had eight points; her husband's had only six."

Howard McClintic writes us as follows: "Because the Secretary's life is hard, I can try to help by saying I'd still rather play golf than try to work for engineers, particularly railroad men, who make you drive steel H piles 120 blows to the inch, and then worry about a fill overturning an abutment where piles are imbedded. Anyway we are still trying but the only gold I see are the fillings that I lose." — EUGENE R. SMOLEY, Secretary, The Lummus Company, 385 Madison Avenue, New York City.

• 1920 •

Judging from the response to our first mailed notice on Reunion, we are going to have excellent attendance and the chances are bright that we will have the best Reunion ever. As those of you know who have attended previous Reunions, that is saying a lot. The Sheldon House will be ready for us and Carl Graves, the Manager, promises his usual superb co-operation on food and accommodations. What more can we say? If you are one of the ones who has not written me about Reunion plans, do so at once.

It is with a heavy heart that I must report the death of John Chester Wilson on November 12 last. Woody, as he was known to many of us, lived in Seattle and was associated with the Telephone Company there.

The interesting Christmas card that I always receive from Denise and K. B. White contains a sketch of the Thirteenth Century castle that they are restoring and furnishing in the original period. K. B. was too modest to give me the above information but Lee Thomas was kind enough to tell me about this. Lee says that the castle is 35 miles from Paris and that when he and Mrs. Thomas were over there, the Whites took time out from one of his work simplification conferences to show them around. Lee says that K. B. is keeping his New York place on the Palisades and his Paris flat as well. Lee also mentions that he sees Frank Bradley regularly as Frank is a director of the A.S.M.E. I assume from that that Lee is another director. At any rate, the picture of Lee's home at 540 Heath Road in Merion, Pa., indicates that it must be almost as impressive at K. B.'s castle.

Bob Tirrell has been thoughtful enough to write me from his home in Englewood, N.J., about the death of B. J. Clark in February, 1954. Brief mention of this appeared in the Class Notes last Spring but Bob provides a little more information. Jud had been associated with Permutit Company in New York and according to Bob, he had had rather serious heart trouble for a number of years. Bob himself has been commuting between New York and Calgary, Province of Alberta, in connection with some crude oil. He says it has been interesting, but tiring.

Dale Spoor, Class of '22, has written to tell me of the death of Fritz Boley. He says Fritz died very suddenly on January 5 at Newcastle, Pa. Fritz had been with the Air Reduction Sales Company for about 18 years. He was with their sales force in Chicago, but had been at Newcastle for the last six or eight years. He is survived by two adopted children, a son and a daughter. I am equally sorry to report the untimely death of Mal Lees' wife, Connie, who was Class of 1921 at M.I.T. Mal is a financial expert with the First of Boston Corporation in New York City.

A welcome note from Chuck Reed. It says that he made his third trip to the Virgin Islands early last year and more recently, he has had a week of quail hunting in Georgia and a Caribbean cruise. Chuck says he has been taking lots of 3-D color pictures and I am hoping to see some of them at the Reunion and to show him some of mine at that time.

Don McGuire can boast of four grandchildren, three girls and one boy. Don's son presented him with a grandson September 27 and his daughter provided the newest granddaughter a week later. Congratulations will reach Don at 13 Courtland Place, Middletown, N.Y.

Phil Byrne of 28 Canterbury Lane, Westfield, N.J., was recently appointed manager of Esso Engineering for Standard Oil Development Company. When Phil left M.I.T. with his master's degree, he taught Chemical Engineering at the University of Notre Dame. Then for several years he was with the American Gas and Electric Company, before joining Esso Standard in 1927 at Baton Rouge. He served as chief engineer of the Hydro Engineering and Chemical Company after which he joined the Development Company as a supervisor. Later he was

connected with Lago Oil and Transport Company, Limited, as assistant general superintendent of their Aruba refinery. Returning to Standard Oil in 1937, he became assistant chief process engineer and was associate chief engineer up to the time of his present appointment. During World War II, he was assistant director of refining with the Petroleum Administration for War in Washington.

Art Dopmeyer is with the American Embassy in Amman, Jordan. Mike Houghton is now living in Golden, Colo. Wendell Sammet's present address is 6946 182nd Street, Flushing, N.Y. John Crowley is with the National Advisory Commission for Aeronautics in Washington. — HAROLD BUGBEE, Secretary, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

Welcome to the newest M.I.T. publication, Wally Milne's *M.I.T. Observer*, a much sought and long awaited source of general interest news from Cambridge, which we will excerpt for you from time to time. Highlights of the month are the new Course XXI, half science and engineering and half humanities and social science, which leads to a bachelor of science degree without designation. As yet unnamed, the new course can be the basis for further arts or science education. The Institute's new 85-foot by 200-foot floodlighted outdoor skating and hockey rink, adjoining Briggs Field House, is in operation, the almost completed Kresge Auditorium has already seen preliminary use and the new Chapel has accumulated various appellations as it nears completion. We hear that ground may be broken this spring for the new Karl Taylor Compton Memorial Laboratories north of the Eastman Laboratories, a reminder for you to contribute generously to this year's Amity Fund, all of which is earmarked for the Compton Memorial and which the anonymous "Mr. Amity" has offered to match with an equal sum. Dig out Class Agent Ed Farrand's January letter and mail the card to the Institute right now. Many thanks if you have already complied with Ed's request.

The Junior League of the Class of 1921 is constantly breaking into the headlines. Patricia Ann Lesser, 19-year old younger daughter of Colonel Louis L. Lesser, has received national recognition in the press for winning the Helen Lee Doherty Women's Amateur Golf Trophy at Miami, Fla., defeating the current Women's National champion for the fourth time since 1950, when Pat was 14 years old. Lou went into the field artillery after graduation with us in Course I and spent a quarter-century in the Army before retiring at the close of World War II. He is with Eastman Kodak in Seattle, Wash. Joe Wenick's younger son, Martin, who is 15 years old, interviewed President Eisenhower at a presidential press conference in Washington as the result of a routine assignment from his Caldwell, N.J., high school journalism teacher to interview "someone important" for the school paper. Martin's story and picture got special attention in the press when he wrote for and was granted official permission to sit in with the nation's top news-

papermen. His dad is manager of the Lightolier Company and Treasurer of the M.I.T. Club of Northern New Jersey.

Channing N. Baker of Harwich Port, Mass., is a candidate for selectman and assessor, according to the Cape Cod *Standard Times*. Hobey has served on the school committee and as chairman of the committee which built a new elementary school. He has been in industrial management for 20 years, most of the time as head of his own firm. Married, he has four daughters, three of them married with families of their own. The fourth is a college sophomore. Hobey is a charter member of the local post of the American Legion and is chairman of a committee sponsoring Boy Scout activities. Sumner Hayward, Ed Lockwood and your Secretary recently attended a meeting of the New Jersey group of the M.I.T. Educational Council. Inadvertently omitted from last month's notes was the name of Howard M. Forbes, who is a member of the Division of Industrial Cooperation at the Institute.

John G. Lee, Tech Show author and internationally known aeronautical engineer, has been named Director of Research of United Aircraft Corporation, Hartford, Conn. He joined the Chance Vought division of the corporation in 1932 after having taught aeronautical engineering at Technology and then serving various posts in the aviation industry. He is a member of the Society of Automotive Engineers, the Institute of the Aeronautical Sciences, the American Rocket Society and the American Helicopter Society. John is the author of the book "Fighter Facts and Fallacies" and is the chairman of the board of Hillyer College in Hartford. Ernest F. Henderson, President, and Robert L. Moore, Executive Vice-president of the Sheraton Corporation of America are news headlines again with the announcement of a new venture. For the first time in its history, the country's second largest hotel chain is undertaking the construction of a new hostelry with the building of a 15-story five million dollar hotel in New Haven, Conn., started last February for completion next year. The Sheraton organization now owns and operates some 30 properties in the United States and Canada and is planning a hundred million dollar expansion program for the next five years.

Walter J. Hamburger and his M.I.T. associates who founded and now head the Fabric Research Laboratories of Boston, are the subject of an illustrated feature article in *America's Textile Reporter*, which shows the ultra-modern 16,000 square foot laboratory and office building in Dedham, which is the firm's new home. Formed in 1942 as a textile research organization, the laboratories now have almost 50 scientists and engineers on research and development projects, instrument and new product design and improvement, quality control and similar work also extending to the plastics, leather, elastomer and paper industries. Walt is a director and treasurer as well as Director of Research and Development. He is treasurer of the Lowell Institute building association and a member of the board of directors and chairman of the Lowell Institute research foundation.

Henry R. Kurth, our Class Representative on the Alumni Council, has been renominated for another five-year term and his name will appear on your ballot. When Saul and Rigi Silverstein were in Turkey last October and November on the Foreign Operations Administration safari, he found time to meet with 10 local M.I.T. Alumni who took the first step towards forming the M.I.T. Club of Turkey. Saul was made honorary president. Address changes from the forthcoming 1955 issue of the Alumni Register have been received this month for Dr. Daniel P. Barnard, Roger Clapp, Herman F. Finch, Ernest R. Gordon and Clarence S. Wentworth.

For your date book: The annual party of the Class of 1921 will be held at 5 P.M. on Alumni Day, Monday, June 13, 1955, at the Hotel Statler, Boston, Mass. Plan now to be there. — CAROLE A. CLARKE, Secretary, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N.J.

• 1922 •

Alumni Day at the Institute will be Monday, June 13, so be sure to make a note on your calendar of the 1922 Party which will be at Frank Wing's house, 53 Chiltern Road, Weston, Sunday afternoon June 12. No individual announcements of this affair will be sent out so will each classmate who plans to be at Frank's on the 12th take it upon himself to drop your Secretary a card to that effect so that our host will know how many to plan on. This notice will be repeated in the May and June Reviews. We will also have our usual pre-Banquet Get-Together at the Statler on Monday, June 13. If you're coming to Alumni Day, be sure to take in these two 1922 events. (On the house, we might add.)

George B. Bailey has within recent months become director of the L. B. Pierce Foundation in New Haven, which, your Secretary is advised, is concerned with studying heating problems. George is also Program Chairman of the New Haven County M.I.T. Club. Clarke T. Harding, who now lives at 126 Wilder Street, Hillside, N.J., has been appointed an assistant manager in Esso Engineering by the Standard Oil Development Company. This appointment comes as a result of the creation of three new Divisions which were formed to replace the former Esso Engineering Department. The function of the Manager's office of Esso Engineering will be to coordinate the activities of these Divisions. Prior to joining Esso Standard Oil Company in 1928 in Baton Rouge, Harding spent several years with the American Sheet and Tinplate Company in Pittsburgh. From Baton Rouge he was transferred to the Development Company in 1931 where he was assigned to their Technical Information Division and made secretary to the Technical Committee. He has been a division head, a chief process engineer, and in 1949 was made assistant chief engineer, the position he occupied at the time of his present appointment.

Randy Hogan in Rome just before Christmas wrote that he had dinner with Minot Edwards who, as previously reported, is stationed in Rome on Govern-

ment business. Randy also enjoyed the opportunity of showing Mrs. Hogan where Uncle Sam had taken him in Europe during World War II. They returned to the States in January. An interesting note came from P.C. Benedict in January. He says: "I am stationed in the ghost mining town of Jerome, Ariz., but except that much of the place is slowly sliding down the mountainside, there seems little of current interest to report. Our eldest son, Risque L., '49 is doing corrosion preventative work in Venezuela for Creole. While we were in South Africa 1949-1951 our daughter was married. She and her two baby sons have just paid us a wonderful visit. Louis P., our youngest, is studying mining engineering at the University of Arizona." Four good stories accompanied Platt's letter, too long for these Notes, but we'll have them available on Alumni Day for all to read.

John C. Molinar moved up to vice-president and general sales manager of Niles-Bement-Pond last December. John has been with N-B-P ever since he left Tech in '22. Congratulations to all of our advancing classmates.

Walter L. Hunt, of Unadilla, NY., is serving as one of the District Governors of Rotary International for 1954-1955. The District Governor's duties are to coordinate the activities of all the Rotary Clubs in their respective districts. During the year the Governors visit each of the Clubs to offer advice and assistance in Rotary service work and Club administration. Hunt is Treasurer of J. W. Van Cott and Son, Inc., a lumber-retailing firm in Unadilla. He is a member of the Board of Managers for World Service for the National Council of Churches and is president of the Wyoming Conference of the Methodist Laymen's Association. As a member and past Secretary of the Rotary Club of Unadilla he now leads 37 Rotary Clubs in one of the nine New York Rotary Districts.

The Class will recall Al Browning's untimely death in 1948. It is now pleasant to be able to report that Mrs. Browning was married February 11 to Henry Clyde Johnson at Bloomfield Hills, Mich. They will be at home on Quarton Road, Bloomfield Hills, after March 15. The Alumni Register sends word of the deaths of Lawrence F. Marshall of Leominster, Mass., on June 17, 1950; of William T. Miller of West Newton, Mass., in January 1955; and of Reginald D. Parkhurst of Kingwood, W.Va., no date given. No other details have been made available. Again our sympathy is extended to the families of these deceased classmates. — C. YARDLEY CHITTICK, Secretary, 41 Tremont Street, Boston, Mass. WHITWORTH FERGUSON, Assistant Secretary, 333 Ellicott Street, Buffalo 3, N.Y.

• 1923 •

President Zimmerman entertained Messrs. Bond, Tremaine, Clapp and Russell on January 25, partly at his office in New York City and partly at the nearby Williams Club. The meeting was quite successful and a large evening was had by all. Channing Clapp showed some excellent moving pictures of the 30th Reunion and of his deer hunting trips into the wilds of New Jersey. Believe it or

not, he got a nice buck with a good set of antlers. You'll see the proof yourself at the 35th Reunion. One slight flaw developed — President Bob Shaw is missing. Please see the advertisement below. Toasts were drunk to those class members making the headlines and the others who are sending in class pictures to the official custodian, Herb Hayden (II).

Lost: One former class President, answers to the name of Robert P. Shaw. When last seen he was using a new hair tonic which had reduced his weight by 25 lbs. Fears are expressed that he carried the treatment too far. Anyone knowing of his whereabouts please communicate with Secretary, or, better still, ask him to make his whereabouts known.

Horatio Bond received an announcement from Bernardo Elosua, I, informing of the marriage of the latter's daughter, Alicia, to Arturo Salinas Martinez at Monterey, Nuevo Leon, Mexico, on January 15th at the Church of the Immaculate Conception. Record indicates that this is the second son-in-law Bernardo has acquired. Congratulations!

Albert S. Redway, XV, has been leading a busy life. For the past five years he has been president of the American Paper Goods Company with plants at Kensington, Conn., and Chicago. Recently, the Company sold out to Continental Can Company but Al stays on to head the Research and Development Department now being moved to the Connecticut plant. After leaving the Institute, he started with the Old Colony Envelope Company in Westfield, Mass. and then transferred to the Farrel-Birmingham Company at Ansonia, Conn., where he became vice-president and manager. In 1943 he joined the Geometric Tool Company at New Haven as executive vice-president and general manager, until he became president and general manager of the American Paper Goods Company. He is a director of the First National Bank and the Acme Wire Company of New Haven and of the R. Wallace and Sons Manufacturing Company at Wallingford. Presently, he is president of the Manufacturers Association of Connecticut. In between, he finds time to entertain the three smartest and best looking grandchildren in the Nutmeg State. Nice work, Al! We are very proud of you!

"A museum should be set up so it's easy for the public to see," thus opined Lester Burbank Bridaham, X, the newly elected Executive director of the Louisiana State Museum. Apparently the trustees thought so, too, because they persuaded him to transfer from the Chicago Art Institute where he had been serving as secretary of the Board. After leaving the Institute, he studied three years at the Art Students League in New York City and later did graduate work with the Fogg Art Museum at Harvard University. Still later he visited art and museum collections in France, England, Holland, Belgium, Germany, Italy, Turkey, Greece, Morocco, Switzerland and Spain. He taught art privately in Chicago and has exhibited work in New York City, Denver, Hartford, Boston and Chicago. He is author of the book, "Gargoyles, Chimeres and Grotesque in French Sculpture." He spent three years in the

Navy in World War II, married Dorothy M. Odenheimer of Chicago and has one daughter, Vivian, eight years old.

Palmer C. Putnam, XII, now living with his wife and daughter in Washington, is the proud author of "Energy in the Future," recently published by D. Van Nostrand Company, Inc. Among his other activities, he served as an economic geologist for the Belgian Government in Belgian Congo. In collaboration with General Electric and the S. Morgan Smith Company, he was instrumental in developing a 1250-kw wind-turbine, erected in Vermont in 1951. Prior to and during World War II, he contributed much to the development of the amphibious Dukw and the amphibious Weasel. He helped evolve the doctrines and logistics of amphibious assault and served in each of the Theaters of War on special assignments for the Joint Chiefs of Staff and for Lord Louis Mountbatten. He received the Medal for Merit as a reward for his contributions. Since World War II he has been attached to the Office of the President in various consulting capacities. Congratulations!

We regret to report the passing of Arthur S. Schulhoff, V, and Colonel John W. Coffey (AO), no other details are presently available. Keep on the lookout for Bob Shaw — HOWARD F. RUSSELL, Secretary, Improved Risk Mutual, 15 North Broadway, White Plains, N.Y. WENTWORTH T. HOWLAND, Assistant Secretary, 1771 Washington Street, Auburndale 66, Mass.

• 1924 •

Guess this must be the late-winter doldrums. After that year-end rush of visitors and news there was a decided letdown. Cy Duevel popped in the other day for just a minute, but he's been the only caller in weeks. The Midwinter Meeting at Walker turned up a few. Carl Muckenhaupt was there with his daughter Joanna. She's a freshman at the Institute, planning to be a mathematician. So far as I know this is the first class daughter at M.I.T. Wil Gilman was there, and so were several others. Unfortunately your Secretary neglected to make a list at the moment, but frankly there's nothing with less appeal than just a list of names, so maybe it's just as well.

As these notes are written the big M.I.T. meeting in Cleveland is still to come, but if the show is at all up to the advance publicity it should be good. Publicity chairman: William Henry Robinson, Jr. Bill, by the way, has a new job. He has been advertising manager at Nela Park, but now they've changed over the whole organization and he's turned up as marketing manager of the Miniature Lamps Department. Need a new bulb for that upstairs flashlight? Bill's your man. Now on the market, the brainchild of another G.E. man. *Transistor Audio Amplifiers* was published by John Wiley and Sons in January, "the first book in the field to show you how to design, build, use . . . and so forth." The author, of course, one of the top men in the field, Richard F. Shea. A note from Dick says he "can't seem to avoid writing books on transistors, even though my present work is in no way related to them. Cur-

rently am working in Schenectady on a temporary study project." Dick's title is about as non-committal as you could ask for. He's manager of Research Liaison of the Laboratories Department in Syracuse. That should cover most anything.

A feature story in the Boston *Post* recently, "Pulling Strings for the Air Force," highlighted the work of John H. Skinkle. John heads the Research Foundation at Lowell Technological (used to be Textile) Institute. This was all about the work he's been doing for the Air Force in testing parachutes. He's evidently developed an impressive array of test gadgetry, described by the reporter under the popular generic name, "electronic." One of our yachtsmen, H. Gregory Shea, had a bit of tough luck during last fall's hurricanes. He lost his boat. It was riding the big blow out in fine fashion until another one, on the loose, came charging down and did it in. However, all's well now, Greg has a bigger and better one, and it's probable that before the next hurricane season is on us he'll have it stowed away safely on high ground.

Belatedly we have learned of the death of Commodore Jacob H. Jacobson in 1951. A Naval Academy graduate, Commodore Jacobson received his master's in Mechanical Engineering with us. With the Bureau of Ordnance for years, he was retired at the time of his death.

Educational Councillors are located all over the world. They interview prospective students and report their findings to the Admissions Office. It is one of the most valuable services performed for M.I.T. by Alumni. Included in this group are many '24 men. Maybe you will be interested in knowing who they are in spite of my earlier comments on lists. Doug Elliott and George Fertig help cover Birmingham, Ala.; Rock Hereford is the Pasadena man, while Bill MacCallum in San Marino and Phil Bates in Santa Monica take care of those sections of California. In Chicago, there's Bill Frisbie; New York, Dick Lassiter (the listing says he's "inactive," but that doesn't sound like Dick); Schenectady, Andy Kellogg; Cleveland, Bill Robinson; Philadelphia, Charlie Phelps; Milwaukee, George Anderson; and Puerto Rico, Luis Ferre. Mexico City, of course, has Nish Cornish and Jack Nevin; while in New Zealand who could it possibly be but the Honorable Justice Arthur Tyndall. These are the men who represent M.I.T. to a considerable number of people, and you'll undoubtedly agree they're a darn good lot of representatives. So much for now. Be with you again next month. — HENRY B. KANE, Secretary, Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

The time left before the 30th Reunion will be extremely short when this Review reaches you. Every effort will be made to get rooms for you at the Hotel Continental if you have delayed this late in making reservations but you had best act immediately. We have looked over the benches on both the Cambridge and Boston Common and do not recommend them for overnight occupancy even in June. Also, as of this date we are informed that cots cannot be set up in the new auditorium.

If we haven't received your reservations, send them by the next mail. Perhaps the Reunion notices haven't conveyed the enthusiasm of the committee members working on plans. In addition to numerous sub-committee meetings we have had two general meetings attended by 25 workers and the ladies have been holding meetings to plan ways in which they can give things the added touch which is always so necessary.

At each of the general committee meetings the chairman had aimed at a 9:30 adjournment only to discover that with all the plans and ideas at hand it was difficult to completely break up until near the closing hour prescribed by the Faculty Club rules. Sam Caldwell, who watched the Institute grow from the factory we knew to its present position which approaches that of a university, suggested that an on-campus reunion should feature this growth. Fred Greer responded with the plans for Saturday morning, the program for which you have already seen. Wallie Squire reported for himself and Jim Howard regarding plans for the informal dinner and entertainment planned for Friday night, June 10. Wally Westland and Sam Glaser told us about the Saturday evening program. Despite their extensive ideas they most certainly will stay within the budget allotted them as can be attested to by Sam Caldwell, Reunion Treasurer, who you can be assured keeps his eagle eye on anything with a dollar sign attached. Henry McKenna let us in on the fact that we are in for a real day at Castle Hill, Ipswich on Sunday, June 12, including the type of shore dinner for which New England is famous. His other plans were only hinted at but everyone gave a word of warning to Mac that even though he might not feel his age, many of us did realize there had been the passage of 30 years between 1925 and 1955.

Fred Rice and Frank Turnbull assured us that no one need be concerned about getting around for all transportation plans were in their good hands. Bill Arnold who has ideas for Saturday afternoon and Hal Robichau who is working with Chet Trask on prizes, and so forth, told us they were keeping their plans under wraps for the present. Ken Robie is chairman of the nominating committee and he refuses to say what his slate of officers will be but he will be present to announce them at the Reunion even if he has to shut down the Water Department of Brookline to make it. All during these reports the ladies, who are organized under Mrs. Greer, were supplying us with new and better ideas and President Ave Stanton, when he wasn't plugging the Alumni Day for June 13, of which activity he is Co-chairman, was offering suggestions on all angles of our Reunion. If you have gone this far we don't believe you will have any good reasons left for not being certain your name is on the reservation list.

There are a few other items to report this month. The Class was well represented by 16 members and guests at the annual Midwinter Meeting at Walker Memorial on February 3. Among the recent address changes are two of more than passing interest: H. Royce Great-

wood, IX-B, has been in Tokyo, Japan, and now is back in this country at Hope Ranch Park, 777 Via Hierba, Santa Barbara, Calif. John H. Stokes, Jr., II, has just received another stay and may be now addressed as Major General, at Fort Myer, Va. Finally, Ed de Coningh, chief engineer of the Mueller Electric Company in Cleveland, Ohio, has been appointed head of the Cleveland Community Chest's Division A, the big money raising division of the Red Feather appeal which last year accounted for more than five million dollars of the \$7,700,000 raised. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T., Cambridge 39, Mass.

• 1926 •

This month, we are putting the class notes on the dictaphone during the noon hour and will have to admit that looking out of the office window at a lot of Boston traffic is somewhat less inspiring than sitting by the fireside at Pigeon Cove with the ocean rolling in down below the cliff. As has always been our practice, we will get the bad news over with first. Two death notices came through on routine forms from the Alumni Register this month and no other information is available at this writing. C. Humphreys Barry died on September 25, 1953 and his address was given as Putney, Vt. Asa W. K. Billings, Jr., died on January 25, 1955 and his last address was Vineyard Haven, Mass. When additional information is available about these two Alumni, we will pass it on to you or if any of you reading this know of further details, we would appreciate having you drop us a note.

A recent news release from the Standard Oil Development Company tells of the promotion of A. Donald Green to the position of Deputy Coordinator of the company in which capacity he will serve as Deputy to the vice-president in charge of Development. Don has been director of the Development Division since 1936, working on the development of processes for the manufacture of synthetic rubbers and other petrochemicals. We are happy to hear of this promotion and extend our congratulations for the Class. Jack Larkin did not show up for the last Alumni Council Meeting so we gave him a ring to find out where he was and learned that he has been very ill, having had an appendix operation in early December which gave him a real rough time. Jack is back on the job now however for part time and appears to be getting back on his feet rapidly. We learned from Jack that Ray Mancha had been in Boston recently and while here got together with Jack for a short while. Ray spent a good part of last summer in Norway and Sweden working on some ventilation problems in Scandinavian coal mines.

A change of address recently came through for Carlton Colt indicating that he is now living on Beacon Hill in Boston. We dropped him a card and told him about the Boston Luncheon Club meetings and sure enough, he showed up at the next meeting. Carlton has had a rather rugged time as a result of injury received during World War II and one of the reasons he came to Boston was because of the excellent medical facilities in this area. From his appearance it looks as though

these facilities are doing wonders for him and he still has the same old charm that we remember back in '26, combined with that pleasing smile. Carlton has retired and spends a good deal of his time at the Genealogical Library on Beacon Hill where he is making an exhaustive study of the Colt family.

There was a good representation of '26 men at the Midwinter Meeting of the Alumni Association as usual and a couple of our classmates had their sons along. George West had George West, Jr., with him and Cedric Valentine had his son John along. Al Dolben was present with a couple of young friends, one a Junior at M.I.T. and another, on whom Al is working with the hope of selling him on the Institute. Bill Borghesani, Harvey Abbott, Dick Frost and Malcolm MacNeil were all at the '26 table and Benny Margolin with his wife and Chet Buckley and his wife completed the '26 representation. We had not seen Chet for some time and learned that he is now in the consulting field, mostly in the Rhode Island area on industrial problems with emphasis on power plants. The clipping finally came through from the East African *Standard*, telling a little more about Bill River's new connection and showing a very distinguished picture of Bill. According to the article, Bill's title is director of Standard-Vacuum Oil Company (East Africa) Ltd. There were no other clippings this month and as we said at the start of these notes, the view of the window at the Federal Street traffic is not conducive to the usual folderol that seems to come so freely when we write from Pigeon Cove. For better or for worse, we will write the notes from there next month. — GEORGE WARREN SMITH, *Secretary*, c/o E. I. duPont de Nemours and Company, Inc., 140 Federal Street, Room 325, Boston, Mass.

• 1928 •

A letter from Kenneth MacCart has brought us up to date on his activities. Ken began his career in the oil business early and attained his present position as President of Petroleum Heat and Power Company, Stamford, Conn., at a time when many of us were still struggling for a toehold somewhere. Recently, he managed to arrange his activities so as to reduce the amount of his traveling. We hope that this means he is taking life a bit easier, something which, at our age, we all should be thinking about, at least. Ken is a loyal booster for M.I.T. and has given the Institute his strong and generous support.

A Christmas Card from Thomas Bacon contained photographs of Tom's four children: Carolyn 17, Thomas 15, John 9, and David 6. They make a handsome and happy group, and we can well understand dad's pride in them. Tom is chief engineer of Lone Star Gas Company, Dallas, Texas. He is prominent in the natural gas industry and active in a number of its professional societies.

The new laboratories of Arthur D. Little, Inc., at Acorn Park were open to guests in the afternoon and evening of December 31, 1954. Several of our classmates appeared for the occasion. They were: Willis Tibbetts, Jim Donovan, and Ben Draper. Willis Tibbetts is with Hesse-

Eastern Corporation, 136 Mount Auburn Street, in Cambridge, and holds the position of chief of Component Section. The Tibbetts have two children, Jacqueline 13, and Gordon 15. Jim Donovan is treasurer and general manager of Artisan Metal Products, Inc., Waltham, Mass., a company which has been built largely by Jim's own hard work, faith, and persistence. Ben Draper is treasurer and general manager of Draper Brothers Company, Canton, Mass. Ben's company manufactures woolen goods and produces the highest quality machine felts for paper mills throughout the nation.

Our class agent, Herm Swartz, urges you to send in your contributions to the 1955 Alumni Fund for the Karl Taylor Compton Memorial unless you have done so already. At the time of this writing, Herm reports that our Class has given a total of \$5,682.75. This amount came from 133 members out of an active roll of 594. The average contribution was \$42.80 with 22 percent of the Class responding. Please remember that each dollar you contribute will be matched with another dollar by a generous donor, who, for the present, is anonymous.

We extend our best wishes to you all and our hopes for your health and happiness in 1955. — **GEORGE I. CHATFIELD, Secretary**, 49 Eton Road, Larchmont, N. Y. **WALTER J. SMITH, Assistant Secretary**, 15 Acorn Park, Cambridge, Mass.

• 1930 •

Between February 2 and February 17, the date these notes are being prepared, George Wadsworth, deputy chairman of our Twenty-Five Year Reunion in June received 113 reply cards to the first Reunion letter. It is most encouraging to report that at such an early date there are 47 who definitely plan to come, with 24 fellows in the "I shall if I can" category. There are 32 more asking to be kept on the mailing list. Only 10 are in the "doubtful" or "cannot come" group. Since names make news and may serve to influence some of you to "come back to Tech" again to see your old pals, we are giving you an alphabetical rundown of the 71 who either plan to come or will if they can: Charles Abbott, Joseph Anastasi, Josiah Barrett, Henry Bates, John Bennett, Jesse Billings, Mannie Birnbaum, James Bowen, Frank Burley, Robert Cook, Gilbert Cox, Biagio D'Antoni, Fred Dickerman, Donald Dieckendorf, Charles Dwight, Frank Fahnestock, Myron Falk, Ernest Fell, Michael Fenton, Earl Ferguson, Fred Garvin, Oliver Green, Enoch Greene, Leslie Guilford, Holland Hamilton, Joseph Harrington, Robert Henderson, Maurice Herbert, Tul Houston, Walter Howe, Richard Huggard, Charles Hughes, Alec Intriligator, William Jackson, Ludwig Jandris, Bryant Kenney, Allen Latham, Stanley L'Esperance, Gordon Lister, Alfred Luery, Morell Marean, Warren Martell, Edward Mears, John Moriarty, James Morton, Frank Nettleton, Howard Orville, Norman O'Shea, Henry Pattison, John Patton, Ralph Peters, Rudolph Peterson, Robert Phelan, Robert Poisson, Theodore Riehl, Barnett Rosenthal, Irvine Ross, Stanley Russell, George Shrigley, Eugene Silva, Parker Starratt, Lester Steffens, George Theriault, William Thompson,

Thomas Turner, Sol Uman, George Wadsworth, Jesse Walton, Elroy Webber, Wesley Wedemeyer, and William Wye.

We happen to know of a number of others who are planning to be on hand, but as yet their cards haven't been received; so if your name hasn't been included, please note the above Review deadline date. We hope to have as complete a list as possible for the May Review, since in that month most minds will be made up, or made up for us by wives who decide that the family will attend. A number of our classmates are planning to use part of their vacation time for the Reunion, so that they can combine a pleasant trip with the three or four days spent in Cambridge.

One reply card carried the sad message that Daniel J. Hughes was gravely ill in the Veteran's Hospital in Albany. From Dunedin, Fla., comes word that Charles W. Robinson is unable to travel. A speedy recovery is our earnest hope for these two classmates. Ida Granara is a chemistry professor at Simmons College. Joseph Shelley is a professor of architecture at the University of Utah. Norman O'Shea is working with Remington Arms at the Lake City Arsenal in Independence, Mo. Maurice Mayer of Summit, N. J., has been appointed director of Esso Engineering's economics division. He has written several publications in the field of polymerization and holds a number of patents on general refining processes. At the recent Midwinter Meeting of the Greater Boston Alumni your Secretary was pleased to see Enoch Greene, Jim Muir, and Allen Latham who was there with his oldest son Nichols, a freshman at M.I.T. — **PARKER H. STARRATT, Secretary**, 1 Bradley Park Drive, Hingham, Mass. **Assistant Secretaries:** **ROBERT M. NELSON**, 48 E. Laurence Road, Phoenix, Ariz.; **ROBERT A. POISSON**, 150 E. 73rd Street, New York 21, N. Y.

• 1932 •

Monk Condie has forsaken the farm, moving to Kirkwood, Mo., 1001 Bernice Avenue. Perhaps the advent of his second child had something to do with this. Monk got a very late start compared to most of us, but seems to be catching up. He is assistant purchasing director for Granite City Steel Company. Word from Frank Ikuno places him in Denver, Col., where he is chief of the Engineering Division for the largest Army Hospital in the United States — Fitzsimons. His address is OMS, Box 264. This hospital is now the T.B. center for the Army. Frank reports he is too busy to have much time for his favorite avocation, fishing. He had an interesting four-year tour in Japan with the Corps of Engineers. In contrast to Monk Condie, most of us find ourselves with boys in college. Bob McCaa writes that his son has entered Frank and Marshall College, Lancaster, Pa., where he is majoring in physics in preparation for being a meteorologist. Bob is another who promises to come to our 25th Reunion. He is still coordinating engineering efforts for the Brown Instruments Division of Minneapolis-Honeywell. Ben Wilbur is a mechanical design engineer for General Electric in the Aero-Marine Engineering Division, living in Quaker Street, N. Y.

Ben is another getting a rather late start with his family, having just had his first child.

Carrell Stover is living in Jenkintown, Pa. He is chief engineer for The Allen Iron and Steel Company, steel fabricator and manufacturer of coal mining machinery. He married Mary Taylor in 1936 and they have two children, Richard, II, 14 and Sydney Suzanne, 12.

Art Russell is president of his own company, designing and developing mechanical gadgets with a principal interest of doing so as he says "without losing dough at it." I doubt if Art is losing any money. He has many ingenious developments for industrial machines to his credit. With his wife and three children, Art lives at 134 Summer Street, Bristol, Conn. Bob McGilvra is a chemical engineer for Brann and Stuart Company, contractors, and is living at 5 Harris Road, Princeton, N. J. I find that Henry Rockwood is meteorologist in charge of the Weather Bureau Office in Pittsburgh, Pa. The only problem with his job he says is convincing his friends and also his enemies that he doesn't control the weather. It must be an interesting job though. Isaac Schwartz is one of the active pediatricians in New Bedford, Mass. He says one of his principal interests is trying to get mothers to manage sickness rationally in the face of the irrational beliefs of the relatives. Isaac is building a new house for his family on six acres with a pond and brook. He feels very strongly that medical training should be aimed at again creating doctors who are more than high type artisans.

Wesley Van Buren writes from Neffsville, Pa., where he is chief project engineer for the Building Materials Division of Armstrong Cork Company. He has been with Armstrong since 1937. He too has a boy entering college (Penn State) this year. Another promise for the 25th Reunion. — **ROBERT B. SEMPLE, Secretary**, Box 111, Wyandotte, Mich. **Assistant Secretaries:** **WILLIAM H. BARKER**, 45 Meredith Drive, Cranston, R. I., **ROLF ELIASSEN**, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1933 •

Congratulations are in order for Dick Valentine, XVIII, and his wife Betty on the birth of Pamela Sue on January 11. Speaking of children, Cal Mohr, one of our very efficient providers of news for this column, rewrites us that the sons of three of our classmates entered Tech as freshmen last fall, Fred W. Kressman, 3rd, son of Fred in Chemical Engineering and Charles C. Vicary, son of Jim, in Mechanical Engineering. Among the promotions reported recently: Pete du Pont, X, to the post of Secretary of the du Pont Company where he has been a director since 1948 and has held a number of important positions since joining the company after he graduated from Tech. During the war, Pete headed the Military Products Development in the Nylon Division. Harold Terwilliger, II, is now supervisor of Engineering Development of Allied Chemical and Dye. William Arnott, VIII, is in charge of Research and Test Engineering of the Burndy Engineering Company in Norwalk, Conn.

Robert Dodd, X, is now Head of the School of Chemical Engineering at Oklahoma Institute of Technology. Bob takes to his new post a wealth of experience in the petroleum industry since he has worked for such companies as Shell, Standard Oil Development, Gulf, and more recently for the Lummus Company in England, Venezuela, Holland and Egypt among other places. Paul F. Genachte, VI, has recently become technical adviser to the Public Utilities Department of the Chase National Bank. In 1954, Paul served as power consultant to the World Bank which involved a mission to Ceylon. And Peter Parker, V, has been elected Treasurer of the Chicago Chapter of Cosmetic Chemists. We were sorry to hear of the death of one of our classmates, Tom Morris, XVI, who made his home in Weymouth and worked at the Boston Naval Shipyard. Tom is survived by his wife and daughter, to whom the Class extends its sympathy. Breaking into the news on the speaking front are Alvin Graves, VI, who shared speaking honors with Secretary of Navy Thomas at the Institute of World Affairs in Los Angeles on the subject of Atomic Energy for War and Peace. Al has been a key figure in the atomic energy business for many years; among other assignments, he has full technical responsibility for all weapons testing in and outside the United States. Lewis Stone, XV, lectured recently to the Explorer Scouts of Torrington, Conn., on Engineering as a Career. Ivan Getting, VIII, Vice-president at Raytheon and Scientific Adviser to the Air Force, who lectured to the Air Reserve Project Engineers at the University of Baltimore. Seen and heard from locally: Len Lindsay, X, who reports that he will transfer this summer to the Outdoor Lighting Department of General Electric in Hensonsville, N. C. Quite a jump from the Lynn Works of G. E. Everett Hume, VI-A, turned up on campus looking hale and hearty for the annual hockey game between varsity and Alumni. The doors of your Secretaries are always open to classmates; if you can't drop in for a personal visit, send a note at least to tell us what you are doing. This is your column and our chief function to keep the news properly channeled to the Review Office. — **GEORGE HENNING, Secretary**, 330 Belmont Avenue, Brooklyn 7, N. Y. R. M. KIMBALL, *Assistant Secretary*, Room 3-234, M.I.T., Cambridge, Mass.

• 1934 •

An article in last October's "High Fidelity" magazine outlines the interesting life and works of Emory Cook who is known to all hi-fi practitioners for his recordings entitled, "Sounds of our Times." Perhaps the best known of these is the train noise recording call "Rail Dynamics." His business is now established in Stamford, Conn. Cook spent the freshman year with us and then went on to Cornell. Fred Johnson recently became manager of the New York branch of Fairbanks, Morse and Company. Except for his wartime military service, Fred has been with this firm since leaving school. Kenneth Dorman has since last fall been technical director of Franklin Process Company of Providence, which is in the

textile field. He came to this post from Goodall-Sanford, Inc. where he had been director of laboratories and chief chemist. We note belatedly the wedding last Thanksgiving of Tom Hayden and Louise Mullaney in Lowell. The Haydens are living in Norwood.

An M.I.T. dinner for aeronautical engineering graduates was held in New York in January. Of those present, three were members of '34. John Borger, Ernie Greenwood, and I had a fine time talking over the last 20 years. John is in New York with Pan American Airways on the engineering side as he has been since graduation. Ernie is now chief engineer for Norden Laboratories at their Stamford shop. — **WALTER MCKAY, Secretary**, Room 33-213, M.I.T., Cambridge, Mass.

• 1936 •

As a result of sending out the Class List, including a card for comments and a request for contributions to fill the Class Treasury, a good overall response was received. The mailing itself went to about 784 members listed as graduates or former students of the Class. About 145 replies were received, approximately a third of which gave notes and comments of their recent activities; another third indicated their new addresses and an additional third just merely checked that their addresses were O.K. — and that presumably they were glad to be listed as members of the Class! In total the Class Treasury received \$387.25 in new contributions, doing something more than doubling the previous balance of about \$222 even after deducting the expense of the mailing of about \$150. The total amount of \$387 was contributed by 89 contributors of whom 30 contributed \$5.00 or more. These persons include the following: John C. Austin, B. B. Birdsall, Malcolm A. Blanchard, C. Douglas Cairns, James H. Carr Jr., John J. C. Coffin, Norman, A. Copeland, Albert Del Favero, Dana Devereux, Vincent T. Estabrook, Harry R. Foster, Stanley M. Freeman, W. W. Garth, Jr., Lewis Gelbert, Robert S. Gillette, Brenton W. Lowe, Frederick A. MacDonald, Spencer H. Mieras, William F. Mullen, Franklin P. Parker, George D. Ray, Stephen Richardson, Bernard S. Schulman, Thomas A. Terry, Jr., Ariel A. Thomas, Fletcher P. Thornton, Jr., G. S. Trimble, Jr., Halsey A. Weaver Peter C. Weinert, Robert E. Worden. It is not, however, too late to make your contribution if you haven't already done so and your name can be added to the honor list as soon as the check or cash, with or without comment, is received by Robert E. Worden, Treasurer, 123 South Broad Street, Philadelphia 9, Pa. A bit of news would be appreciated as well, to help liven up the Class Notes.

There is a good deal of news about various class members. In fact there is so much that only part of it will be reported in the April issue of The Review and the remainder will be covered in the May issue. Fred Assmann from Trenton, N. J., reports that he is now Plant Engineer at the Thiokol Chemical Company living in Hopewell, N. J. At the moment he is dickering for a new house and five acres in the country. Jim Baker reports from Madisonville, Ky., that he is still in the

mercantile business. His family consists of two boys, nine and seven, and a girl three and one half. One sign of prosperity is that he has just moved into a new home with plenty of room to take care of any classmates passing through Madisonville. Whit Brewer points out that he was recently appointed director of Mutual Fund Sales of Draper Sears and Company, Boston, Mass., members of the Boston, New York and American Stock Exchanges.

Doug Cairns writes from his new location with the Champlain Oil Company of Burlington, Vt., that he is ready to help out with "odd jobs." Whether or not the odd jobs have to do with his work or his possible class activities is not indicated. Stacy Carkhuff reports from Topeka, Kansas, that currently and for the past six years he has been self-employed in the field of investment management. Such engineering interests as he may now have are only that of an avocation related to automobiles and sports car racing. Inasmuch as he states he is married with five children his life has evidently been a busy one! Arnold Clark reports from New York City that he is no longer at the Woods Hole Oceanographic Institute in Woods Hole, Mass., but is now taking time out from business to fix up an abandoned house on six acres of ground outside of Pleasantville, N. Y. His report that the road is named Hardscrabble Road is no misnomer. As a matter of historical interest the road apparently dates from Revolutionary times and Major Andre, British spy, passing on his way to discovery and capture at Tarrytown — no doubt passing Arnold while working on his house.

John Coffin reports from Newburyport, Mass., that he is still with Towle Silver-smiths, where he has been since graduation except for a four year stint with the United States Navy, 1943-1946. In spite of being a married man, married to Priscilla Cordman of Flushing, N. Y., March 1944, and having two children, Priscilla nine and Susan seven, he manages to find time to be president of the Plant Engineers Club in Boston and keep up his membership activities in the American Institute of Plant Engineers. Al Dasburg reports from Rochester, N. Y., that his business address is still General Railway Signal Company where he is Transportation Research Engineer, although this is a change from his former communications work. Unfortunately his daughters, 9, 11 and 13 do not seem to be likely prospects for M.I.T. Ben Dayton also from Rochester, lists his present position as that of technical director of the Consolidated Vacuum Corporation, manufacturers of high vacuum equipment with a family consisting of his wife, Irene, and two boys, David nine, and Glenn seven, his life appears to be a full one. Al Del Favero tells us that from the time of his graduation to 1942 he was a contractors engineer in New England and Washington, D. C. After a tour of duty winding up as Lieutenant Commander with the Navy Seabees, 1942-1945, he was first a partner in a Nashville, Tenn., contracting firm, 1945-1949, and now, since 1949, owns his own contracting firm, which is probably required in order to support the three

children, a girl seven, a boy six, and a boy seven months, arriving as a result of his marriage in 1941. Bob Edwards reports that he is now with the Ward Leonard Electric Company as their Boston representative.

Vince Estabrook from Waban, Mass., sets the record straight with the comment that Hank Lippitt is not the only perennial bachelor of the Class. In his state of solitary bliss (?) Vince states that he manages to devote some time to Tech affairs and is now on his second year as Secretary-Treasurer of the M.I.T. Business Luncheon Club and for three years has been a member of the Tech Alumni Council. Wendell Fitch in Springfield, Mass., is working as chemical engineer on Textile Developments with the Chicopee Manufacturing Corporation and is a settled inhabitant of Springfield with his family, including two girls. Stan Freeman's remarks from Beverly Hills, Calif., points out what a great life those who have had the courage to "pick up and go West" are having. After five years out West, his wife and four children and he are all confirmed Californians. He is associated with the Witco Chemical Company, a national concern manufacturing industrial chemicals for the rubber, paint and plastics industries, and as vice-president in charge of the Western Division he is busy, for the most part visiting sales offices and plants from Los Angeles to Seattle. As an incentive to other classmates Stan points out that the West is really growing and the opportunities are great (shades of Horace Greeley). John Grindell now is a Lieutenant Colonel in the United States Army and has recently been assigned to the Graduate Command and General Staff College.

In addition to last month's report on Bob Gillette — quoted liberally from *Who's Who*, Bob states that the Rock of Ages Corporation, of which he is president, besides operating three large granite quarries and several granite manufacturing plants, has started the manufacture of capacitors, to help all of us watch better TV programs. In addition Bob is director of a railroad — the Barre and Chelsea. True it only runs ten miles, but nevertheless it is a railroad! In spite of this he has a private airplane to get around in! With his two children, Debbie twelve, and Ned nine, his best times are spent skiing in winter in Vermont, and sailing in summer on Cape Cod. Fortunately the whole family, including his wife, Janet, appears to get an equal amount of pleasure out of these sports. Al Horton reports from God's Country, San Francisco, that he is still firmly entrenched with Standard Oil Company of California. Al is at present responsible for budget administration (shades of the Institute Budget Committee, except now it is \$ millions instead of \$ hundreds) and financial analysis (expenditures, earnings and cash). (Ed. Note: This sounds like a good part of the business to be in.) On the family side Al is proud to display to anyone his lovely spouse and three equally lovely daughters, Pam eleven, and Gailie seven, and Caroline three.

Apparently the Class of '36 is poorly represented in San Francisco although Al sees a few members occasionally,

which is probably more than many of the rest of us do. Win Stiles, Bob Hannam, Carl Engstrom, and Freddie Meyer, plus Brent Lowe and Hank Cargen are infrequent visitors. Al offers an invitation to "toss off a few" with any other visitors who may be lucky enough to make San Francisco a port of call. Stan Johnson reports from Pittsburgh that after three years in Sweden and Belgium as metallurgical engineer for United States Steel, Northern Europe, he became general priorities representative for U. S. Steel for two years in Washington. Since April 1953 he has been purchasing agent of Nonferrous Metals for the Corporation with offices in Pittsburgh. While in Washington he and his wife adopted a four months old boy, Steven, who is now two years old. Bob King gives a scanty few remarks on his work as a geologist with the U. S. Geological Survey concerned with uranium in Colorado and Wyoming, enjoying life out there with an "all-American" family, one girl and one boy. (Bob should get in touch with Brent Lowe in La Jolla who is reported to have made a killing in a uranium mine in Utah!) Dave Kowitz is now in France with the Nancy Ordnance Depot of the Army as a civilian employee having been in Frankfurt, Germany, for eight years. When he returns from Nancy, France, he will no doubt give us all glowing reports (we hope at the 1956 Reunion) of the Place Stanislas and the lovely gates there. (Tourist advt.)

Roger Krey reports that a lot has happened since the 1951 Reunion. Early in 1952 he moved to Canada (in spite of the cold Canadian winters) to set up and operate the first dynamometer testing and tuning service for automobiles in Montreal, so that by now he must be almost bi-lingual. Roger's business is currently a two man show which despite its dirty handed duties has an earning potential equal to engineering (and probably above it. Ed.). Best of all Roger is his own boss at least "to a degree" since he married Barbara Crawford of London, England, and they now have a year old daughter, Pamela. Wally Lane in Boston, after 11 years as a naval architect with the Navy Department in the Boston Shipyard, went back to his father's cotton waste business in 1950. As a married man for nine years and with four children, three boys and a girl, Wally appears to be enjoying life in the shades of Tech. Paul Lebenbaum reports his new status as acting manager of Engineering Synchronous Specialty Motor and Generator Department of General Electric Company at Lynn, Mass. Roger LeBlanc (no relation to the famous LeBlanc of Southern Hadacol fame) is still associated with J. J. Morreau and Son, Inc., in Manchester, N. H., but now as vice-president of a large retail and wholesale hardware store. In addition he is treasurer of the Acme Realty Company, property owners in the city and carries on his work as store maintenance supervisor and contract builders hardware consultant with gusto. Roger has been married since 1940 and has two sons and a daughter, 13, 11 and 12. In between times he manages to hold down the presidency of the M.I.T. Club of New Hampshire and as might be expected is a good Ro-

tarian and member of the Chamber of Commerce, Last, but not least, Brent Lowe reports from LaJolla, Calif., where all of us would like to retire but few of us have gumption enough to go, that since moving to San Diego in July, 1953, he is engaged in the fascinating "as well as profitable" field of selling businesses and hopes to move into a new home he is building in LaJolla within a month. His wife Corky and his children, Ming nine, and Trent three, enjoy life out West. As Brent reports, "no snow or smog here." A lot more notes will be included in the May issue of *The Review* and perhaps if some of you send in some additional items we will actually have something for the June issue as well. Here's to the Reunion in 1956! — HENRY F. LIPPITT, 2ND, Secretary, 30 Rockefeller Plaza, New York 20, N. Y.

• 1937 •

A few items of interest from clips and releases: Charles E. Reed, general manager of the General Electric Company's Silicone Products Department at Watford, has been named chairman of the fund-raising Science Development Council at Rensselaer Polytechnic Institute. The Troy College said Dr. Reed and his committee, made up of industrial and business executives, would seek funds from industry and individuals to help support science teaching and research at R.P.I. A graduate of M. I. T., Dr. Reed is 41 and has been with General Electric since 1942. He was engineering manager of the company's chemical division before assuming the Watford post in 1952.

Robert Ferguson, Jr., has been appointed chief engineer, project development, United States Steel Corporation. He succeeds Norman C. Michels who was recently appointed assistant vice-president in charge of engineering for the corporation's Tennessee Coal and Iron Division. Ferguson, who has been assistant chief engineer of U. S. Steel's Orinoco Mining Company, received a B.S. degree from Massachusetts Institute of Technology in 1937 and a master in Business Administration degree from University of Chicago in 1950.

Harvard Professor Robert B. Woodward, 37, son of Mrs. Margaret W. Chase of 170 Holbrook Road, North Quincy, will receive \$1,000 as part of the 1955 Leo Hendrick Baekeland Award of the American Chemical Society's North Jersey Section for his "many outstanding contributions to organic chemistry." Announcement of the award was made by the selection committee chairman, Dr. Karl A. Folkers. A graduate of Quincy High School Professor Woodward received both his bachelor and doctor degrees in chemistry from the Institute in 1936 after only four years of study. A junior fellow at Harvard University from 1938 to 1941, Dr. Woodward was appointed associate professor at the university in 1947 and full professor in 1951. Acclaimed by the National Academy of Science as "one of the greatest in the history of chemistry," Dr. Woodward attained internal eminence in 1944 when he and Dr. William E. Doering of Columbia University discovered synthetic quinine. A pioneer in "miracle drugs,"

Dr. Woodward in 1951 headed the team which made possible the production from inexpensive materials of cortisone which relieves the symptoms of rheumatoid arthritis, Addison's disease, bronchial asthma and miscellaneous poisonings. In 1953 Dr. Woodward was appointed the first Morris Loeb Professor of Chemistry at Harvard. The Woodwards have four children and live in Belmont.

Linden — Bertrand E. Bennison, 684 Rahway Avenue, Westfield, has joined the staff of its Medical Research Division, it has been announced by the Standard Oil Development Company. He is the author of several publications in the field of public health, and is a member of the American Medical Association, the American Association for the Advancement of Science, and the American Public Health Association. — WINTHROP A. JOHNS, *Secretary*, 34 Mali Drive, N. Plainfield, N.J.

• 1942 •

As yet another winter passes and the spring turns the thoughts of the dwindling number of bachelors in our class to romance, we report the wedding of our world traveling consultant engineer, Jim Klein, to the former Mary-Elizabeth Brown of Cambridge, Mass. Hans Aschafenburg, residing these days in Concord, was one of the ushers.

On the industrial scene, Oliver P. Swope, Jr., has been named vice-president of operations of the George F. Alger Company, a Detroit motor-carrier concern. Ollie has been in the transportation field since graduation except for his Navy service and a two-year stint with the Arthur D. Little Company. In a somewhat lighter vein was the charming whimsical piece in the *New Yorker* of December 11 about John L. Senior, Jr., and his 450-acre Clunehoniff Farms in New Canaan, Conn. John's other business is chairmanning the board of New York Airways, the helicopter service connecting Metropolitan New York's three airports with Princeton, New Brunswick, and Trenton, N.J. To get back to the country . . . "This is just the raw, blustery time of year to be telling you about Dexter cattle, which come from Ireland, are scarcely taller than big dogs, can stand practically any sort of cold weather, and can make do on practically any sort of pasturage, including underbrush. . . ." John has a herd of 40, out of the 150 in this country; and, from the rest of the article they sound like first cousins to Al Capp's "Shmoo."

If anyone else is interested in the helicopter field, Munroe Brown, assistant to the chairman of the board of Piasecki Helicopter Corporation will be happy to show you around and also talk business. A long newsy letter from Ken Rosett brings us up-to-date on his more sedentary life since returning from Europe and active Air Force duty. Aside from being busy promoting new dope-dyed rayon seat cover material and plastic covered fiberglass screen for Chicopee Mills he is active in a variety of community organizations (when Jean is not out to her P.T.A. League of Women Voters, and other meetings). On the side Ken did a tour of active duty last summer at the Pentagon in the Armament Division, Director-

ate of Maintenance-Engineering. Despite the title he was involved in very interesting guided missile work. As of December he is a Lieutenant Colonel in the Reserve. In his spare time he plays a spot of pinocle now and then with Jim Stern, and in odd moments is taking beautiful pictures with his new Omega 120 and Nikon 35mm. (Now that the traveling is over he has given up big cameras — 4x5 Graphic.)

Just today Jack Sheetz gave me the \$50 tour of the new Kresge Auditorium. It is a sight to behold, just about every ingenious stage, audio, lighting, and television facility has been incorporated in this elegantly beautiful and exquisitely simple building. As assistant to the director of general services at the Institute Jack was the person responsible for the technical facilities and the interior-decoration. His grand job is surpassed only by his infectious enthusiasm in pointing out the features. I heartily recommend that when ever you are in Boston you try to trap Jack for a wonderful hour's guided tour. — LOU ROSENBLUM, *Secretary*, Photon, Inc., 58 Charles Street, Cambridge 41, Mass.

• 1943 •

John G. McMullin has joined the staff of the metallurgy subsection in the Materials and Processes Laboratory of the General Electric Company's Large Steam Turbine-Generator Department at Schenectady, N.Y., according to Fred P. Wilson, Jr., manager of the laboratory. Dr. McMullin, who first joined G.E. in 1952 with the Research Laboratory, is presently working on determination and understanding of the structure of metals and its effects on mechanical properties.

A native of Huntington, W. Va., he received his Bachelor of Science, Master of Science, and Doctor of Science Degrees from the Institute in 1943, 1948 and 1952. Dr. McMullin is a member of Sigma Xi, the American Society for Metals, and the American Institute of Mining and Metallurgical Engineers. He was an instructor of Metallurgy at M.I.T. from 1947 to 1950 and a research assistant from 1950 to 1952. He is married to the former Harriet Beading, of Moline, Ill. They have a five-year-old daughter and a two-year-old son and live at 1533 Grenoside Avenue, Schenectady.

Robert V. Podesta of the Sperry Gyroscope Company has been appointed to the new position of engineering section head for guidance system, responsible to the engineering section head for missile control systems, in the Drone and Missile Systems Engineering Department. Podesta joined Sperry in February, 1943, as a field service engineer assigned to the A-5 automatic pilot and the S-1 bomb-sight program. In June, 1944, he left the company on military leave and entered the Navy. He served as an ensign, assigned to the repair of airborne electronic equipment, until being separated in September, 1946, at which time he returned to Sperry as an assistant product engineer. In September, 1953, he was promoted to senior project engineer. Since his return from military service, Podesta has worked on the A-12 automatic pilot and, more recently, the Regulus missile.

He originally worked on the Regulus automatic pilot, but later was assigned to the guidance system. This work has included field testing the missile.

Your Secretary has been busy lately preparing two cases for argument before the Connecticut Supreme Court of Errors, both concerning real estate. One case has to do with adverse possession, that is, the loss of land by allowing someone to encroach on it for a certain number of years. All property owners beware: watch your boundaries. The other case will decide whether a cemetery can expand across a public highway, under a zoning law allowing "extension of an existing cemetery." My engineering studies helped out in both matters. Fortunately, one doesn't have to see a lawyer in order to send news to the class notes, you only have to write to one. So why not do so? We're all interested in your experiences. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

• 2-46 •

A good deal of news has accumulated since we last broke into print. Just for the record, much of it has come from the questionnaires sent out a while ago, so many thanks to those of you who filled them out and returned them. Stu Edgerly moved from Long Island to a new job as Industrial Sales Manager for Fenwal, Inc., in Ashland, Mass., last summer. He's living in Wellesley and says: "Great to be back in God's country." Stu also reports arrival of his second son. Ned Spencer has filled the gap in Long Island which Stu left, and is an engineering supervisor in charge of microwave development at Wheeler Labs in Great Neck. It is welcome news that we all learn eventually — Ned says "I just learned all about the Navy from the 'Caine Mutiny'." Dave Denzer submits a report of his whereabouts, he's a development engineer with General Electric in Schenectady. His marriage to Anna Haft of New York hasn't previously been reported here. Our faithful correspondent, Navy fly-boy L. G. Body, was, at his last report, an aircraft maintenance officer of a fighter squadron in the Mediterranean but was expecting orders to shore duty, and looking forward to two uninterrupted years with his family. As a very timely note, he says "Maybe with a little luck I'll be able to make the 10th reunion." (For those of you who have short memories, it will occur *next* year.)

Ned Tebbetts is very absorbed in a new job as actuary in group pension and insurance work with New England Mutual Life Insurance Company. Still a bachelor, he evidently can't tear himself away from the shadow of Tech for he is living at 100 Memorial Drive. Ned's also a commodore of the Wood's Hole, Mass., Yacht Club and doing plenty of sailing. Another classmate who hasn't strayed from the fountain of knowledge is Dave Hoag, project engineer in the M.I.T. Instrumentation Lab, working particularly on Navy fire control and allied projects. Dave tells that he gets together on business occasionally with Lou Martin who is in another lab at the Institute. John Sullivan is in his seventh year in Venezuela, as a general engineer and con-

struction supervisor for Creole Petroleum Corporation. Still an "unclaimed bachelor," he has traveled extensively throughout South and Central America and took a fling (unsuccessful, he says) at digging for gold and diamonds at Angel Falls. Bob Spoerl flashes word that he is a proud father, and that he practically gave birth to Robert, Jr., himself. He is selling mechanical rubber goods for N. Y. Belting and Packing Company in New Jersey. Bob and Marilyn have recently settled in Short Hills, N. J., in a home which has inside plumbing and a red barn in the back. Success, it's great! Sterling Bushnell is in Muskegon, Mich., employed as an engineer for Stewart Hartshorn Company, makers of window shades and rollers; he's doing "a little of everything" but mostly new product development. He was also stage manager for the famous "Miss Michigan Pageant" which had to be re-run because two of the judges were fixed. Question: How does one fix a beauty contest judge?

The aircraft industry seems to be relying heavily on 2-46. Al Little is supervisor of aircraft structural testing facilities at the Naval Air Experimental Station in Philadelphia. Al is president of the Philadelphia chapter of the Aeronautical Sciences Institute; he also recently became a father for the second time. Says he often sees Pete Wright and family. Don Robison is with Chance Vought Aircraft in Boston as an aerodynamics design engineer supervising air load studies. He transferred to Boston from the main Chance Vought operations in Dallas about a year ago. However, things in Dallas are in good hands as Lou Wadel is there, also with Chance Vought as a project aerophysics engineer working with automatic flight control systems and analog computers. Lou is a graduate lecturer in engineering at S.M.U. on the side. (Incidentally, Lou, your suggestion to print names in bold face in these Notes is a good one, but apparently is a bit too costly.) And a third class member with the same company and also in Dallas is Al Litchfield. He is likewise an engineer in the aerodynamics department. Beverly Beane is an aerodynamicist for Douglas Aircraft in Santa Monica, doing research in theoretical aerodynamics; however, she is due back at the Institute soon as she received Zonta International's Amelia Earhart award to do graduate work at Tech. Congratulations, Beverly! Out in Cleveland, Ohio, is Jim Corbett, working as a project engineer on aircraft pumps and fuel controls for Thompson Products, Inc.

Still on the aeronauts, we have Bob Wentsch at Fairchild Engine in Farmingdale, N.Y., as a project engineer. The birth of Bob's second child and first daughter hasn't previously been reported here. Ed Potter is a flight test analysis engineer at the Sperry Gyroscope Company research plant in Ronkonkoma, Long Island. He received an M.S. degree at Drexel Institute in 1953, and also recently became the father of a first daughter. Working for the aircraft engine division of Ford Motor Company in Chicago is Bert Jacques, who is supervisor of a product engineering parts unit. Bert also reported his marriage two years

ago to Anne Nielsen of Hamilton, Mass. And Shep Arkin is working on air launched guided missiles for the Navy Bureau of Aeronautics in Washington; Shep recently became a first time father with the birth of a daughter. Knobby Ray is also engaged in guided missile work, doing design research at Johns Hopkins University.

Speaking of births, Dave Moyer tells of his most recent offspring "arriving at 3 A.M. in such a rush we couldn't reach the hospital. The doctor was 10 minutes late and I officiated at the birth. Mother and daughter doing well - father still recovering." Dave is a project engineer for Delco Products in Dayton, president of the M.I.T. Club of Miami Valley and Educational Counsellor for M.I.T. Russ Dostal is president of the Dostal Foundry and Machine Company in Pontiac, Mich., and recently became a father for the third time. Russ also promises that he's looking forward to the '56 reunion. Dick Steele, who completed a two year tour with the Navy a short while ago following recall and spent most of that time in Japan and Korea as an aerologist, is now employed as staff service manager with George Fry Associates, consulting management engineers, in Chicago.

Bob Nelson is a production and methods engineer for Fenwal, Inc., makers of temperature control equipment in Ashland, Mass.; Bob and wife recently completed building of a new home of which they are mighty proud. Two mainstays of Doelcam Corporation in Newton, Mass., are John Maynard and Ken Mathews. Ken is chief electrical engineer, engaged in design and development of control instrumentation, and John is a research engineer. Glen Forflinger is district manager in Houston, Texas, for Fischer and Porter Company, selling industrial process control instruments. Dorf is one of those unusual creatures in Texas, an "unmillionaire." More next month. Send your news in now, to - WILLIAM M. SIEBERT, *Secretary*, 5 Martha's Point Road, Concord, Mass.

• 1952 •

Hello, folks, just a few tid-bits from the mailbox this month to keep you up on the doings of the 1952-ers. Stan Sydney writes as follows: "I have been at Douglas Aircraft in Long Beach (California) for six months now, and I'm getting to feel at home out here. I have just about completed the 'tourist' stage in that I have made the rounds of the more outstanding tourist attractions. Now I can sit back and contemplate just what I would like to visit a second time. I saw Hal Lawrence out here while he was on a business trip for M.I.T. in his position as an Industrial Liaison Officer. Andy Codik, a Course XVI man was at a recent meeting of the M.I.T. Club of Southern California. I also saw Demetri Fatistcheff at another meeting. He is working for a competitor, North American Aviation. He is married now and is living in Long Beach just a few miles from me. Dick Ayers is out of the service now, as are most of our classmates. He is also married and is currently working in the Azores. Bill Crandall is currently in school in the New Jersey area. Bill and I, as you

probably remember, are both Alumni of Building 22, Room 2C, Class of 1949. Hugo Ghiron, another member of this elite group, was back at Tech last spring working toward an advanced degree. I saw Lowell Smith and his wife at Burt Richter's wedding in Sudbury, Mass., last June. Burt's wife is the former Barbara Parker. Jim Grace and Dick Sharp were also at the wedding. Jim married Nancy Miller about one week after Burt's wedding. At least, that's what I think the time sequence was. Denny Graham is at the University of California studying for his master's degree in Civil Engineering. I saw him Christmastime when I visited the big city San Francisco, and its little sister, Berkeley." Thanks a lot, Stan.

Charlie Hecht writes from Chicago: "Just a few remarks from the University of Chicago. I have been here since the fall of 1952 working on my Doctorate in physical chemistry - said degree being no more than a year away. However, I have an important date coming up before then - my wedding. I am engaged to a lovely girl, Mary Iorio, who will receive her B.A. from the college of this university this June. We expect to be married early in September and will live in Chicago until I am finished with my work in the chemistry department. Lloyd Currie will soon have his Ph. D. from here and is planning to continue in academic work. Ron Chisholm entered the department this past fall after having spent two years at the University of Vermont." Please keep writing, Charlie. And while in the chemical vein, I should like to report having seen Norm Weston, "the Morton Downey of the Chemical Corps," at the Brattle Theatre, goofing off one Sunday night. Norm is still calling himself Mister, and as you might have guessed, is still slaving away at the Institute for his Doctorate in chemistry.

And a random sample from among the Christmas cards brings out the following discernible notes. From Jerry, Anita, and Susan Laufs of Baton Rouge, La., comes the following: "Susan is growing like a weed, now 19 months old, getting into everything and jabbering constantly. Jerry is working very hard with Esso these days, but still finds time to play basketball during the week with the Esso League team. He has also recently organized a church basketball league for the high school boys." Keep it up, Laufes.

From Bill, Emily, and Billy Dunn: "By now we're well settled in California and what a wonderful place in which to be settled. Yesterday Emily and I finished our last exams of the winter quarter; we're both Stanford students now. Billy is walking all over the house. He's 16 months old today. Hello to all you Easterners. Drop into Menlo Park and see us, please." Hal Larson writes (wonder of wonders): "In case you've ever wondered what your old roomie has been doing to while away his time . . . I'll clue you in. First of all, I'm still at Loyola University Dental School, learning to be the average citizen's number one enemy. I'm actually working on patients now, really getting the meat of dentistry in large doses. I guess it appeals to the sadistic side of me."

Art Auer, the Clayton, Mo., scribe, has the following news: "I am now in my

third year of medical school and am really enjoying it a lot. So far this year, I have spent six weeks in the St. Louis Children's Hospital and six weeks in St. Louis Maternity Hospital on obstetrics and gynecology. It is very interesting, lots of work, but actually I enjoy it so much that I never feel as if I'm working. By now there is quite a gap in my engineering interests, but still drag out my old slipstick occasionally to figure out babies' formulas or drug dosages. As for the immortal words of Doc Lewis, "What does this mean to you," I have the opportunity to use them daily. When a patient presents himself or herself with certain symptoms, they have to be organized together to arrive at a correct diagnosis. Medicine is certainly a wonderful profession." Thanks, Art, for all the news.

From one who was one of the first to bite the dust, Lou Di Bona, comes the following: "Things are about the same. I'm still working for Westinghouse as a sales engineer in the Air Conditioning Division and am still in Pittsburgh, Pa. Believe it or not, I'm going to be a father in April. It's happening to everybody else, so I figured that I'd better get into the act. I'd like very much to know the whereabouts of Phil Spegleman, by the way." Can anybody help Lou out on Phil's latest address? And on fancy University Club stationery from Cleveland, Dick Baker writes: "In the spring of 1952 I decided, as you may recall, to go back to Tech for a second B.S.; this I received in June of 1953. Afterwards I went to work for the Bartlett Engineering Company of Rockford, Ill. I am still with them although I now live in Cleveland, as I'm now their traveling representative. My territory includes Western New York, Western Pennsylvania, West Virginia, Ohio, Kentucky, and Indiana. Thus, as you can see, I'm getting around. By the way, we make packaging machinery of various types. As you can guess, I'm still not married, still 4-f, and always broke."

There were also some notes ranging from "Hi," from Art Turner in Washington, D. C., and Ed Margulies in New York to "wonder where you are this Christmas?" from Bill and Jean Morton in Ypsilanti, Mich. Louise, Dan, and Danny, III, Sullivan have happily settled themselves down as civilians in Bedford, Mass. Doug, Sally, and Brad Haven write: "On October 19, young Bradford Knight arrived. Doug is now working with the Philadelphia territory for the Polychemicals Department of Du Pont selling industrial chemicals and plastics." They are living in Essington, Pa.

Jean and Taj Hanna reported in as happy civilians in Charleston, W. Va. A neat little card with the words, "This is number 1," reported the arrival of Elizabeth Ann Garthe on November 28. The happy papa is Larry Garthe, the smiling "Dixie-cup man of Easton, Pa. And finally from our Rio de Janeiro correspondent, Werner Kahn: "Season's greetings to everybody in 1952. I spent four months in the U. S. this year on a training program with the Gulf Oil Corporation, mainly in Atlanta and Pittsburgh." STANLEY I. BUCHIN, *Secretary*, Chase E-34, Harvard Business School, Boston 63, Mass.

Among the marriage notices and Armed Forces press releases on my desk, there is a clipping from a midwestern newspaper with the heading, "Boy's Courage Never Lessens." The clipping concerns a classmate of ours, Brian Parker, whose legs were paralyzed by polio at the age of 14. He has since regained the partial use of his legs, received his B.S. degree from Tech in quantitative biology, and presently is attending the School of Law at Northwestern University. In a letter from Dick Crowell (Course XV, and "combined plan man" from Ripon College), we learned the following: Last fall Dick was attending a basic officer's course at the Ordnance School in Aberdeen, Md., and his letter did a beautiful job of relaying not only his past activities, but also those of many of our classmates. Before coming into the Army in June of '54, he spent about one year with General Electric going through the various stages of their training program. He appears to be very well satisfied with G.E., and plans to return upon his release from the service. Dick's schooling was in the automotive field. Before going to Ordnance School at Aberdeen, Dick spent a short time at Fort Dix; and while there, Chad Gibbons, Cliff Cole, Stu Kleinfelter and himself had a small scale reunion. Chad Gibbons has by this time left Dix, and has probably completed the basic course for engineer officers at Fort Belvoir. Dick goes on to say that Leonard Menice attended the Ordnance School with him at Aberdeen, and also that Leonard has signed up for Category III (a term of service in the Army extending over a three-year period instead of the normal two years which most of us "Reservists" will serve). After finishing school at Aberdeen, Leonard planned to go on to Guided Missile School at Redstone Arsenal, Miss.

Ray Deitz has attended the Ordnance automotive school, and furthermore he seems to have done extremely well during the year between graduation from Tech and his entrance into the Army. Ray started out as a salesman for the Electrolux Corporation, and while working as such, he won a nation-wide contest for Electrolux sales. As a result of this he was promoted to assistant manager of his district.

A few further notes from the same source: Cliff McLain and George Michel went through Fire Control School at Aberdeen. I don't know what type of school this is; it sounds more like an Artillery School than an Ordnance School, maybe one of you can enlighten me on the subject. At this point Dick makes a note on two of us who as of September were still wearing that handsome uniform of the civilian corps — George Wallace who is working in New Haven and Reginald Abbot who is working for Gulf Oil in Colby, Kansas. Larry Odence left Aberdeen in September for an assignment in Texas, and Walt Duffin is in the Corps of Engineers, stationed at Fort Devens.

During the month of July at least three of the members of the Class of '53 passed from bachelorhood to marital status. Richard Wengraf and Alice C. Chandler were married in Tuftonboro, N.H. The

bride is a graduate of Boston University and also the Management Training Program at Radcliffe College. In Fort Worth, Texas, William J. Dunlay and Dorothy L. Johnstone decided to become partners in this adventure called Life. Miss Johnstone graduated from Radcliffe College in 1954. Her husband is employed as a physicist at Convair Aircraft Corporation.

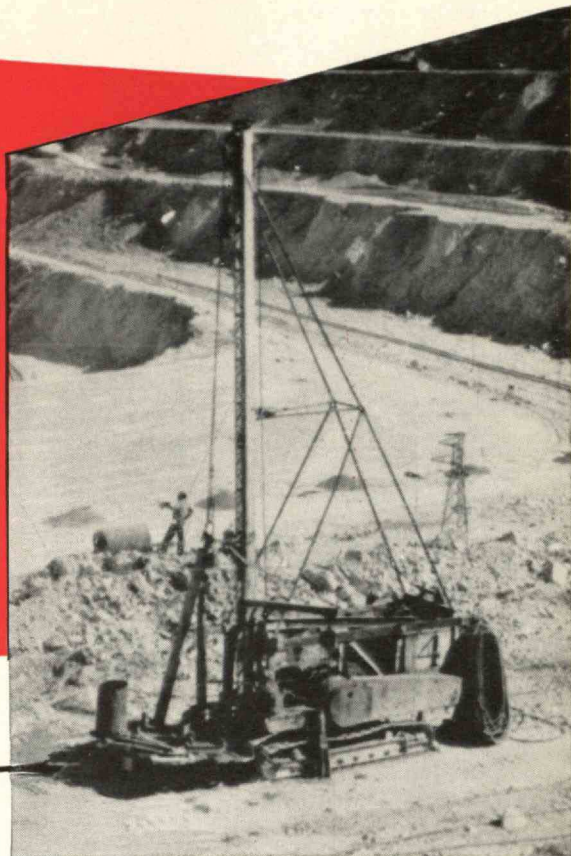
Bob Tessier and Margret F. Fitzgerald were also on the list of July weddings. Margret graduated from the College of Our Lady of the Elms, and prior to the wedding taught school in Springfield, Mass. Bob is stationed at Camp Gordon, Ga., in the Military Police Corps. That is just about it for this month folks. Thanks very much for those Christmas cards — what say I not wait till next Christmas to hear from you again? — VINSON W. BRONSON, JR., *Secretary*, 33 Wooster Heights, Danbury, Conn.

• 1954 •

I finally found the clippings of Frank A'Hearn's wedding to Margaret Platts and the official reports of Dick Wallace's wedding to Charlotte Werner. The fatal step was also taken by Nick Blazensky and Sandra Johnson. And Ray Cairns married Mae Friswell early in December. Finally got a letter from our Secretary, Ed Eigel. He is studying mathematics at Marburg. Tom Gibbs, who has been handling the news from the Boston area, particularly from the Grad School, reports that John D'Amico is working for Eastman Kodak in Rochester, N.Y., and that Joe Pennimpede is at Fort Devens. The Air Force is a pretty popular place these days with Russ Chihoski, Lou Goldberg, Ev Chambers, Ronny Lovasz, and George Perry all going on active duty. Lovasz and Perry, myself and Brad Crawford all took in the M.I.T.-Bates basketball game. Seems that school spirit finally hit — the four of us were almost thrown out for unnecessary noise. For the record, Harry Notarys is heading up the Walker Student Staff this year. Kevin Woelflein and Locke Yut are at Fort McClellan, Ala. Mat Baczewski is in the grad business school at Wharton.

Along the lines of correspondence, got a Christmas card from Stewie Smith, who is in Great Falls, Montana, working for Shell Oil. He likes Montana pretty well, but is due to go down to Houston, Texas. Herb Jacobson is scheduled for work out in Idaho this month. By the way, Herb will become officially a U.S. citizen January 21, and yours truly will be a witness at the ceremony. Carl Schmid is in Uravan, Colorado, with the U.S. Vanadium Company. While speaking of geology majors, Tom Bird, currently of the Corps of Engineers, married Joy Lanner December 30, in Pawtucket, R.I. Also in Rhode Island are John Bradshaw and Tom Henderson in Navy OCS at Newport. Henderson and wife came by, looking as if they were enjoying married life. Not that he has put on much weight, but we call him "Paunchy."

Once more a desperate plea for news goes out from the Acting Secretary. Address all mail to — DAVID R. WONES, *Acting Secretary*, 37 Bay State Road, Boston 15, Mass. EDWIN G. EIGEL, *Secretary*, Grosseelheimer Str. 2, Marburg, Lahn, Germany.



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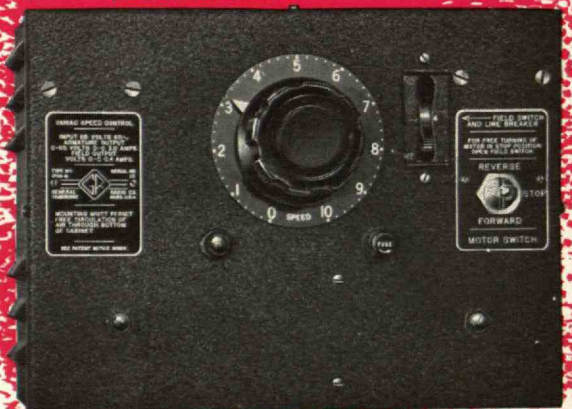
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